

Access. N^o

9002

Class.

615.853

Loc:

A17

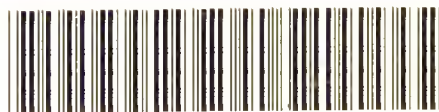


Bath
Public Reference
Library.

Presented by

ALFRED JONES

OF BATH + 1915



22101357651



Digitized by the Internet Archive
in 2014

<https://archive.org/details/b20404281>

A GUIDE

TO

DOMESTIC WATER CURE.

“ Non venas reserant nec vulnere vulnera sanant,
Pocula nec tristi gramine mista bibunt;
Amissum lymphis reparant impune vigorem,
Pacaturque ægro luxuriante dolor.”

CLAUDIANUS. *Eclog.* VI. “Aponus.”

“ Vom Wasser kommt der Bäume Saft,
Befruchtend gibt das Wasser Kraft
Aller Creatur der Welt;
Vom Wasser wird das Aug' erhellt,
Wasser wäscht manche Seele rein,
Das kein Engel mag lichter sein.”

WOLFRAM'S “Parcival.”

A GUIDE

TO

DOMESTIC HYDRO-THERAPEIA.

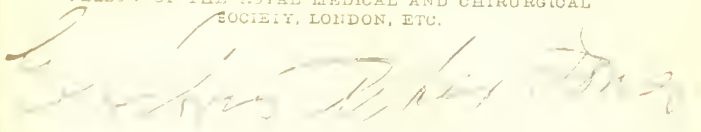
(THE

WATER CURE) IN ACUTE DISEASE.

BY

JAMES MANBY (GULLY, M.D.,

LICENTIATE OF THE ROYAL COLLEGE OF SURGEONS,
AND FELLOW OF THE ROYAL MEDICAL SOCIETY, EDINBURGH,
FELLOW OF THE ROYAL MEDICAL AND CHIRURGICAL
SOCIETY, LONDON, ETC.



SECOND EDITION.

LONDON:

SIMPKIN, MARSHALL, & CO., PATERNOSTER ROW.

EDINBURGH: A. C. BLACK. MALVERN: H. CROSS.

1869.

14856968

M17220

WELLCOME INSTITUTE LIBRARY	
Coll.	weIMOmec
Call	
No.	WB520
	1869
	G-97g

PREFACE.

FOR several years past I have desired, in response to the wishes and suggestions of most of my patients, to undertake some writing which might be a guide to them when they had quitted my personal supervision. Having experienced what the hydro-therapeutic processes would do for the maladies against which they sought them at Malvern, and having thereby acquired faith in them, as well as distrust of their previous practices, they naturally enough wished to learn how to deal, through the same method, with the disorders which might assail them when they were at home. Multiplied occupations, however, never gave me the opportunity of putting their suggestion into practice, until a severe illness in

the early part of last winter obliged me to retire for several months from all practical avocations. Some part of this period of retirement I have given to the production of the present volume, which I trust may answer the purpose which my patients desired to satisfy.

It thus appears that I have written specially for non-professional persons. I have done this the more willingly, because I hold a strong opinion that all "mysteries" in men's callings are absurd and out of date, and are too often but curtains behind which short-coming knowledge and want of tact hide themselves. Let it not be supposed that it is an easy task to write without the 'mysteries:' at least, it is easier to write with them. First of all, technicalities which, from habit, come ready to the professional writer, have to be translated into the vernacular. Then, in order that the practical reader may employ the measures recommended with an enlightened

faith, some *rationale* of the symptoms to be treated, as well as some reasons for the treatment, require to be given. Finally, all this must be done in as brief style as possible, for diffuseness perplexes, if it does not altogether deter, the reader; whilst, on the other hand, the Horatian warning not to push brevity into obscurity, stares the writer in the face. I dare scarcely hope that these desiderata of a popular work have been met satisfactorily in the present one; but I have striven conscientiously to meet them.

A much more voluminous work might have been sent forth, had I included in it all the maladies against which hydrotherapeia is capable of being successfully employed. But inasmuch as that method is proposed, in these pages, to be applied by non-professional persons in their own homes, at a distance from a special practitioner of it, I am very certain that I have put a prudent limitation on the number and

character of the disorders herein included. In complicated, variously phased, and very speedily grave or destroying diseases, no such responsibility should be undertaken by the kinsmen or friends of the sick man as is implied in the treatment by means of written instructions. In all such cases it is their bounden duty to seek the personal inspection and advice of a medical practitioner, whatever his known opinions regarding treatment may be. I have therefore confined the list of disorders to those which I believe an usually educated and intelligent person may safely and efficiently venture to treat, according to the detailed instructions herein laid down.

The necessity for such a book as this is based on the fact, that practitioners of hydro-therapeia are only to be found in a few localities of the land, and the question at once presents itself, "Why is this so?" Half a dozen words answer it—indolence, bigotry, moral cowardice, bad taste.

Very many persons pass through a professional life without making any inquiry into its practical capabilities beyond those with which they commenced their career. Even with reference to their own adopted creed of treatment, their indolence refuses to keep pace with the modifications which the more enlightened followers of the same creed introduce; how then can it be expected that *fainéants* of this kind should bestir themselves to travel so far as hydrotherapeia?

Then comes bigotry so swollen with pride and self-sufficiency that it were vain to expect it to move one line beyond its own circle, however small, or its own groove, however narrow. This is the Genius which says, "I will not look into your facts; and if you lay them before me, I will not believe them." And she rejoices in not a few votaries.

More pitiable even than this is the case of the moral coward, who refuses to inquire

because it will not *pay*, because he fears to offend his seniors, because he dreads to be called hard names by the idle and bigoted aforesaid. Is *he* likely to aid the extension of anything so out of the routine as hydrotherapeia?

Add all these together, and a tolerably extensive obstacle to the spread of water treatment among medical practitioners will be found. Yet it is a very certain and a very proud fact that the medical profession includes not a few minds of the highest order for the purposes of inquiry, and having the highest objects and aspirations in their noble occupation. If it be asked why these enlightened men have failed to inquire into and to practise water treatment, here is the answer of one of them: "Your system has not been presented to us in the form of a scientific treatment; we see water-cure establishments advertised in very nearly the same puffing terms as a cheap clothier's or haberdasher's; we

see pamphlets published, some with a name, some anonymous, with the sole object of puffing some one practitioner and his establishment ; we hear of catch-penny Turkish baths profusely and perseveringly made known in the advertising columns of the daily and weekly papers ; and we conclude that this is some new trade which may be conducted by an expert bath-man, but cannot include matter for inquiry by educated medical men." And thus it is that bad taste and vulgar devices have driven the best men of our profession from the experimental investigation of hydro-therapeia. The fact is so ; it cannot be denied, and can only be regretted.

Spite of all these impediments, however, the hydro-therapeutic treatment is stealing here and there into the practice of the ordinary style. We hear of compresses being recommended by the better orders of the profession ; we hear of sitz baths being ordered as an essential part of treat-

ment; latterly, we even hear of the learned professor of the Practice of Physic in my own loved and revered University of Edinburgh packing patients suffering from scarlet fever in cold wet sheets; and it is fit and appropriate that such a renowned medical school should be the first to quit the circle of routine and cast off the slough of prejudice.

But whilst exposing the causes which have impeded the reception of a most powerful list of remedies into the daily practice of all medical men, let it not be supposed that I hold with exclusiveness as regards any system of treatment. In the following pages I profess to set forth methods of treatment which experience, and comparative experience too, tells me are the most eligible for the morbid conditions therein mentioned; but, as will be seen in some of these pages, I exclude neither the allopathic nor the homœopathic aid: in fact, as the latter can be safely

applied by the light of some of the numerous and clever Guides which are attached to that plan of treatment, I would advise readers to add the remedies which they will find there to those which I have proposed, especially under the head of Diseases of the Womb. In time and place allopathy has its uses also ; although many of these have been beneficially superseded by the other plans of treatment. And when a physician knows experimentally all these methods ; when if one is not appropriate he is practically conversant with the others, and thus is better provided with weapons against disease than any other practitioner who only wields one ; yet, with all this advantage, in how many conflicts does he not stand without arms before the phalanx of symptoms which he can neither alleviate nor conquer ! Looking duty to his patient steadily in the face, is any medical man justified in saying that under no circumstances will he employ any means but

those included in a certain list, when there exist other means in other lists? That is scarcely the idea which the public have of the education and functions of those to whom they intrust their lives. They have the idea that the former is more liberal and the latter more extensive than the knowledge of only one method implies; and thus the solitary knowledge looks very like an imposture. Before any sick man asks his medical attendant whether homœopathy, allopathy, or hydro-therapeia will suit his case, let him put the preliminary question, "What do you practically know of the two other methods besides that which you have already employed?" To ask a doctor whether water cure will agree, when the said doctor knows nothing whatever about water treatment, is a superfluity and an absurdity.

With the expectation, probably, of propping a tottering bigotry, a word redolent of bigotry has been latterly borrowed from

the ecclesiastical vocabulary, and applied to the art of curing disease—we have been lectured on Orthodox medicine! Orthodox fiddlestick! I wonder if the promulgators of this phrase are capable of seeing the ludicrous position in which they place their profession by such an application of such a word! Where is the revelation on which to build the orthodoxy? In the human body, with its endless temperaments, constitutions, and variations of morbid phenomena? Where exists the Council, Convocation, General Assembly, Conference, whatever the thing may be called, to pronounce upon heterodoxy? And whence are its powers derived? and by whom acknowledged? Are we to have a medical parallel to the ecclesiastical divisions in the High Dose Church and the Low Dose Church? Truly it is impossible to speak of such nonsense as a medical hierarchy in any but a nonsensical manner.

Notwithstanding all the bitterness and

bigotry with which the sectarians of the medical profession denounce each other, a certain amount of catholicity of view regarding medical treatment is gradually taking possession of the non-professional mind. The lay public is beginning to tire of being tossed from one bigot to another bigot, and is beginning to ask why it is, since each quotes favourable statistics of cure, that each does not study, and in time and place apply, *any* plan of treatment which experience shows to be the most successful in given cases, and thus make himself master of all methods. That the public will persist in and increase the demand for this mastership, and not be content with the narrowness of one view and one plan in matters which involve life and life's comfort, is my hearty hope. Without derogating from the claims of usefulness put forward by the ordinary and the homœopathic methods, with both of which I am practically acquainted, I place before that

public some of the results of twenty years of hydro-therapeutic experience, having a conviction founded thereupon that that method is, upon the whole, the most efficient against the maladies which are treated of in this volume.

J. M. G.

MALVERN, *June*, 1863.



PREFACE TO THE SECOND EDITION.

THE exhaustion of a large edition of this work renders it necessary to issue the present one. In the preface to the first edition I stated, that no maladies were mentioned which were not safely to be treated by non-medical persons according to the directions laid down, and that all maladies which were not so treatable, and which required the actual supervision of a medical adviser, were purposely omitted. The consequence of this is that nothing new can be added to the present edition, save in minute particulars: the diseases and their treatment by hydro-therapeutic methods remain the same, because none others can be added with any prospect of utility or perhaps safety. The form of the

book has undergone some change in the type and page, whereby it is rendered more readable and more easily consulted. In the new form it is an exact pair with my work on Chronic Disease.

Shortly after the publication of this work in 1864, the application of water treatment to acute forms of disease began to be much more frequent among the members of the medical profession who attend the public hospitals; and it is to be hoped that the results of their experience of its effects will be such as to encourage them to a more extensive use of it. Still, between the prejudices with which those members themselves were educated, and the ignorant antipathy of their patients, there remains much to be done towards the fair testing of one of the most wonder-working plans of treatment in acute disease which has ever been presented to the world: I apply this epithet advisedly, and with a perfect knowledge of other methods in old

and ordinary usage. But the longer I observe, the more I am convinced that the avoidance of water treatment in acute disease is quite as much due to the timid and ignorant patient, as to the prejudiced practitioner. Horrified at what he calls cold water (though he knows it is applied at all temperatures), the patient swallows without a particle of dread the deadly calomel, the poisonous iodine, and the irritating internal tonic.

Whilst this ignorance on the part of patients operates to make the practitioner of the old school leave things as they are, and to save himself trouble by palliating instead of learning to cure, I regret to state that since this work was first issued, the same squaring with the prejudices of the uninformed has come to be practised by not a few of those who profess to treat diseases hydro-therapeutically, and who call themselves "hydropaths:" the title being a kind of net to catch all fish. The net

is a house for the reeeption of invalids nominally, but in fact for any one who will enter it. Onee in it, they who are ailing are treated just as they desire—old drug medication, aleoholie stimulation, hot baths if preferred to eold or tempered, anything to prolong the inmate's sojourn and avoid confliet with his prejudices. The doctor is the obsequious tradesman, instead of the eonseientious teacher and treater.

At some of these establishments a regular exeise lieense for the sale of vinous and spirituous liquors is taken out; in short they are hotels for all eomers, under the name of hydropathic establishments. At others the "hydropathy" eonsists in blistering the skin with hot water and mustard; whilst some "hydropaths" do literally nothing but rub their patients with brandy and salt outside, and deluge them with the same brandy, sherry, and other intoxicating liquors inside. In a word, the *trade* of hydropathy is carried on, but the medical

treatment by it is passed over as not *paying*, because not pleasant to the patient's fears and feelings. I believe that at this moment, of the so-styled practitioners of hydropathy, there are not more than four who take the smallest heed of the physiological action of the water cure in disease: possibly they are unable to understand it—an alternative infinitely more respectable than the tricky use of its name for sordid ends.

This is a melancholy picture of the condition of a most valuable agent in the cure of disease, after an existence of twenty-six years in this realm. But I think that it should not be concealed; I think that in all things sham and imposture should be laid open; and although the sneer of the men of the antique school may follow, it will be totally unfelt by those whose "withers are unwrung," and may possibly—not probably, I fear—make those "galled jades wince" to whom and their doings I have alluded. Meantime, the genuine, physiological, appli-

cation of hydro-therapeia is gradually infiltrating into the practice of men of high standing and honour, and to them I look for its future prevalence.

J. M. G.

MALVERN, *January*, 1869.

CONTENTS.

PART I.

	PAGE.
GENERAL REMARKS ON DISEASE AND CONVALESCENCE,	1

PART II.

DISEASES OF DIFFERENT MEMBRANES OF THE BODY.

DISEASES OF A FEVERISH CHARACTER,	18
---	----

DISEASES OF THE LINING MEMBRANES.

Catarrh of the Forehead, Nostrils, Eyes, and Throat,	28
Influenza,	32
Sore Throat,	37
Soreness of the Swallowing Throat,	37
Swollen Sore Throat,	38
Erythematous Sore Throat,	41
Relaxed Sore Throat,	43
Soreness of the Vocal Throat,	46
Hoar-ness,	46
Croup,	49
Spasmodic Croup,	52
Inflammation of the Air-tubes of the Lungs,	55
Cough,	55
Acute Indigestion,	59
Acute Bilious Disorder,	60
Sick and Bilious Headache,	60

	PAGE.
Dry Colic and Flatulent Belly-ache,	66
Diarrhœa,	71
Catarrh of the Bladder,	83
Inflamed Piles,	86

DISEASES OF THE COVERING MEMBRANES.

Rheumatism—Rheumatic Fever,	90
Neuralgic Rheumatism,	97
Brain Fever, and Acute Inflammation of the Spine.	101
Fever without Eruption,	102
Inflammatory Fever,	107
Versatile Fever,	109
Typhoid Fever,	109
Nervous Fever,	113
Gastric Fever,	114
Typhus Fever,	118
Fever with Eruption,	122
Measles,	124
Scarlet Fever,	128
Small-pox,	134
Chicken Pox.	137
Erysipelas,	137
Nettle Rash,	141
Boils,	145

PART III.

DISEASES OF A NERVOUS CHARACTER.

General Remarks,	155
Neuralgia, Tic Douloureux,	164
Asthma,	181
Hay Asthma,	186
Palpitation of the Heart,	189
Hysterical states of Nerves,	193
Alcoholic Treatment,	200
Temporary Constipation of the Bowels,	202

PART IV.

DISEASES OF THE WOMB.

	PAGE.
General Remarks,	214
Speculum Treatment,	218
Retarded Menstrual Discharge at Puberty,	224
Retarded Menstrual Discharge with fullness of blood,	232
Retarded Menstrual Discharge with bloodlessness,	242
Retarded Menstrual Discharge from distant irritation,	247
Green-Sickness,	249
Leucorrhœa—Whites—Falling Womb,	261
Painful Menstruation,	269
Excessive Menstruation,	275
Change of Life,	286
Hydro-therapeutic Processes,	306



PART FIRST.

GENERAL REMARKS ON DISEASE AND CONVALESCENCE.

As this work is specially intended for the guidance of non-professional persons, it will not be superfluous to offer some statements regarding disease in general, before dealing with the particular maladies the treatment of which it is the object of these pages to designate. It is reasonable to believe that, if the public were possessed of some clear and correct notions on this subject, they would be dispossessed of many prejudices, the existence of which leads to the employment, at an early stage of slight disorders, of a treatment which speedily transforms these into formidable diseases. Or, supposing those prejudices to be overcome, such notions would tend to abolish the fear of leaving slight disorders to natural processes of cure, and to obviate the tendency to "doctoring," and to meddling with those processes. If, from having a knowledge of what constitutes disease, that condition could be recognized at its earliest stage, a very small amount of artistic aid

to nature (frequently only a negative aid) would suffice to abolish its germs, and re-establish the healthy play of the organs. This desirable knowledge on the part of the laity has been recognized by several medical writers, and I am only repeating what has been previously urged. But it can be urged with much more reason and cogency when such *natural* methods as those included in hydrotherapeutic treatment, are to be employed in opposing the first demonstrations of disease; for there is no fear that these will operate by setting up one kind of irritation for another, as is too often the case when any slight stomach or lung disorder is treated with mercurials, aperients, and emetics. The hydrotherapeutic method carefully avoids excitation of the interior vital organs by direct application, and the layman can *see* the organ upon which he is applying his remedies, and the sooner he begins to apply them the surer is their *soothing* action on the commencing tumult.

I. The action of external agents upon the tissues of the body, when not excessive in degree or poisonous in character, begets healthy life. So far as we know, life is a *result*—a series of processes—digestion, blood-making, blood-circulating, respiration, sensation, thinking, locomotion, &c. The sympathy between these organs which perform these different processes is also an *internal* stimulus, which maintains their actions; and so long as each organ sends its due quantity and

quality of organic sympathy to all the other organs, the act of healthy life is complete. If, for instance, the stomach receives the exact amount of food which it can digest easily, the process of digestion in it becomes a stimulus to the brain and spinal marrow, and these organs take on an action which causes the sensation of refreshment and invigoration: the man thinks and moves with renewed alacrity. The "sensation" here mentioned is not in the brain or spine, but is produced over the whole frame by their agency: for in purely healthy life there is no "sensation" in one organ more than in another. A man in perfect health feels neither head, nor heart, nor lungs, nor stomach; these are all playing harmoniously into each other's hands, and in the midst the man "lives and moves and has his being," but he does not *feel* any of them. Youth, and wonderful constitution in more advanced age, exhibits this state of immunity from sensations of the organs; but in civilized society, as it is called, such instances are rare among those who make up that society, during their pursuit of business or of pleasure. The healthy man *uses* all his organs, but *feels* none of them in particular; he feels that he lives, but none of his organs remind him that it is by them that he lives.

II. Reverse this picture of harmonious action between, and no sensation from, the organs, and you have diseased life. From the first moment when one organ retains more blood and nervous

circulation than is its due, from the moment, in fact, when the phenomena of living activity are greater in it than in the other organs, from that moment it becomes a source of disordered organic action to the other organs, and disease is present. For instance, when an excessive quantity of food has necessitated an excessive activity of the stomach to digest it, this excessive activity becomes a source of disorder to other organs, and you may have bad sleep the same night, and on the following morning bad urine, showing the interference of the stomach with the brain, spinal marrow, and kidneys. Or expose the organ called the skin for a long time to cold and damp, until it is no longer able to produce blood and heat to resist the external impression; you thereby overload some of the interior organs with blood which ought to be circulating on the skin. The result is excessive organic activity in the lungs, constituting bronchitis or inflammation of the lungs, or inflammation of the belly, or, finally, such a *general* distress and super-activity of the internal organs as to produce the general tumult to which the name of *fever* is applied. And it is a curious fact that, in all such cases of inflammatory and feverish disease arising from excessive cold to the skin, nature's effort is always made to re-establish the circulation and secretions of the skin; hence its feverish heat, and the ultimate perspiration which frequently terminates maladies of that kind. A gifted medical friend of mine, now no more.

used to call fever "a skin disease." To this I shall have to return hereafter.

Again, when the poison secreted by a patient in measles or scarlet fever has been absorbed into the blood by the lungs or skin, the presence of it in the circulating mass becomes an excessive irritant, and, finally, a natural tumult is set up to rid the body of it; not, however, until its presence has compromised the functional integrity of the internal organs which are the centres of vitality. And this is the reason why animal poisons of the kind alluded to will remain for many days, and several weeks even, without the tumultuous signs of infection.

III. These instances will suffice to show that disease is a violent reaction upon excessive or morbid agents, the evil results of which it seeks to redress; and that during such reaction and effort the organic sympathy, whose equilibrium constitutes health, is lost. If the organs have not been deprived of much of their organic power by ill usage of them, or by age, *and are not much meddled with during this effort*, they will, for the most part, come triumphant out of it, the organic sympathy will be again well balanced as between the different organs, and health will be by that very fact re-established.

IV. It will be observed that I have employed the term "organic sympathy." The lay reader must understand by that, as regards disease, an interchange of action between the organs, which is carried on without the animal sensation of *pain*,

and by the intermedium of nerves which do not possess the faculty of producing that species of sensation. Accordingly, a morbid sympathy of the organs may be going on without any *strong* exhibition of animal distress. This is the stage of disease which has been called the "incubating;" the state of things allowing the patient to walk and follow his usual occupation. But although no vehement exhibition of distress may be present, close observation may always detect *some* animal uneasiness: increased languor and decreased alacrity, depression or irritability of mind, more or less shivering, broken or dreamy sleep, contraction of the face by the muscles spread over it, &c. If it were possible for those interested always to observe these smaller signals of disease, the negative treatment, by repose of stomach, brain, and limbs, would very often suffice to bring the organs back to their natural sympathy with each other. There is little doubt now that a diseased sympathy of the kind alluded to had been going on in the frame of the late Prince Consort for many weeks before it was exhibited in the last three weeks of his illness, and that, in consequence, the organs were unable to relieve themselves; their complications had become too numerous and intense, and their vital powers too much exhausted thereby, to make that effort at self-curing which is the only one that is effectual. In like manner, if a healthy and naturally good-tempered child exhibits a disobedient and quarrelsome state of mind, and wakes

once or twice in the night, having habitually made but one sleep of it, you may reasonably suspect that some derangement of the organic sympathy is somewhere existent, notwithstanding that he runs and plays and even eats as usual; in due time he will do none of these, in consequence of the spread of the morbid organic sympathy to the brain and spinal marrow. I hold that this stage of disease ought to be accurately watched and promptly dealt with; a world of time and trouble and anxiety will be thereby saved. But the majority think that all must be right if eating goes on.

V. This brings on the consideration of the spread of disease from one organ to another, and from one set of nerves to another. An irritation of the stomach may be a simple matter to manage, but it becomes more tedious and grave if it has contracted a morbid sympathy with the kidneys, so as to cause calculus or saccharine or albuminous matter there. Still more formidable is it when the same kind of irritation involves the brain and spinal marrow. In all feverish complaints this is the complication to be most dreaded; the reaction of the brain and spine upon the stomach, or other organ affected, intensifying the state of the latter, and rendering it less and less able to re-establish its natural action. Hence the wisdom of as early repose as possible of all the body, and the strict abstinence from all irritants applied to the organ first disordered. Let an acutely irritated stomach rest from strong food,

but let the muscles of the limbs and trunk also rest, since their activity involves the brain and spinal marrow. As this opusculc professes to deal with minor maladies, or with the beginning of graver maladies, only, I think it necessary to lay the strongest stress on this point. One of the capital blunders of warfare is to "despise your enemy;" so in the warfare of disease you should act as if the slight shiver, or cough, or nausea, or giddiness might become a serious disease, and might involve one organ after another until, reaching the great nervous centre, the brain, the army of symptoms becomes unconquerable. This neglect of *rest* to the frame is the great mistake in the process of treatment. Is it *rest* to a disordered stomach to have calomel put into it? Is it *rest* to the brain and spinal marrow, oppressed and distressed as they are by such a stomach, to exert their powers over the limbs in the exercise of volition in walking or thinking? Be sure that you will *always* do well at the commencement of disease to cease all exertion of limbs and mind; the brain will thus more ably resist the encroachments of morbid organs upon it.

VI. Let it always be remembered that a disease, that is, a series of disordered signs in the various functions of the body, is an effort of that body to throw off some irritation which external or internal causes have produced in its more noble organs. All that a physician can do is to place the body in the circumstances which tend to render the effort

less tumultuous and more likely to be effectual. HIPPOCRATES says that the aim of a physician should be to cure—"cito, certe, et jucunde"—speedily, certainly, and pleasantly; and this can scarcely be done where, from the very onset of the symptoms, the natural effort is thwarted by the setting up of new irritations by means which, however they may relieve *cito*, neither do so *certe* nor *jucunde*. A foul tongue may be cleaned quickly by a powerful aperient or by an emetic; but there is small *pleasure* in griping or nausea, and the only *certainty* is that the stomach will the more readily fall into fresh disorder from the shock which its vitality has undergone in the process of purging or vomiting. When, therefore, you are told that a certain medicinal agent or a certain hydrotherapeutic process cures such and such symptoms, understand only thereby that it puts the body in the best condition to cure itself. With this view of the matter clearly and strongly in the mind, you will be more able to make a just comparison between the rude attacks which are made directly upon morbidly sensitive internal organs by powerful medicines, and those measures of relief whose object is to soothe the said organs by giving them complete rest, and by drawing their irritation to parts which peril life and life's comfort less.

VII. For, after all, the physician can, to be successful, only observe and help and imitate Nature in this her struggle for ease and existence; and an invariable rule of her's is to attempt to

throw her distress from the more noble upon the less noble organs; from the brain, lungs, stomach, &c., upon the kidneys, bowels, or skin. As a general rule *nervous* complaints (*i.e.*, complaints which do not involve an *inflammatory* state of the organs affected) throw their irritation upon the kidneys rather than on the bowels or skin, and so are relieved; whilst those mingled conditions of nervous and inflammatory action, to which the term *feverish* is applied, mostly find relief by augmented action of the bowels and skin. Nervous headaches, nervous asthma, nervous palpitations of the heart, that long list of nervous symptoms known as *hysteria*, all get ease from copious and watery action of the kidneys; whilst the irritation of nervous indigestion is mostly relieved by an action of the kidneys which deposits large quantities of saline matters; of which *nervous gout* is a notable instance. Internal congestions and inflammations of the mucous membranes most frequently throw themselves upon the lower bowel in the shape of diarrhœa, and upon the skin in the shape of perspirations and various kinds of eruption. Thus disease always tends to cease by the setting up of increased action in some secreting surface; and as the skin is one of the most copious in its secretions, and is bound to the internal organs by the highly sensitive inter-medium of the brain and spine, whose nerves are more thickly spread in its texture than in that of any other surface, it presents an eligible and at

the same time, the safest organ, in which to apply remedial agents. This proposition is more fully disscussed in my work, "The Water Cure in Chronic Disease," chapter 4.

VIII. Whenever, either from a continued application of the causes of disease, or from the inability of the organs to relieve themselves by any of the secreting surfaces alluded to, the symptoms constituting the malady persist, *Chronic Disease* is then said to be established. The organs upon which this has fixed itself may so interfere with other and important organs of nutrition as to produce waste and ultimate death of the body without change of structure in themselves. But if, for want of relief by secreting surfaces, the irritated organs deposit an excessive quantity of their own natural tissue, or some tissue which is not natural to them, or if the process of waste proceed more rapidly than that of reparation of the tissue, and ulceration is in this manner formed, *Organic Disease* is said to be established; for which, except when surgery can successfully intervene, there is no cure; although the continuance of life for long years is quite compatible with the presence of some organic changes.

IX. Convalescence is the state in which, after the equilibrium of vitality has been re-established between the various organs by the efforts of the nervous systems to that end, the body is found to be wearied by those efforts, and a sense of general languor without pain or suffering prevails. Such,

at least, is the condition of the body when the natural efforts at relief from disease have not been interfered with by factitious stimulation and *forcing* of the organs. Even with the hydrotherapeutic treatment, however, which simply aids, and does not force Nature, there is the extreme sense of lassitude which strongly marks the battle which has been waged within the body; and there is also more or less waste of the actual tissues and blood of the body, the former being less in quantity, the latter both smaller in quantity and poorer in quality.

If it were possible for the patient to remain in this negative state of existence, it would be a heaven of peace after the tumultuous horrors of disease; but this is only a kind of repose after those horrors. The waste of blood and tissues has to be filled up; and life is active, not negative. Accordingly, after a period which varies from two to six days, the process which is to renew the blood of the frame commences to be active; and the appetite for food arises, frequently with fierce energy. Then comes the stage of suffering once more. The calls of appetite are great, but great also is the sensitiveness of the nerves of the digestive organs—greater because, for her own restorative ends, Nature has directed a disproportioned degree of vitality to these organs. Unless the greatest caution is used in the gratification of the appetite, by the administration of very small and frequent doses of food, rather than of large and infrequent doses, of mild rather than of strong aliment, a real

disease may be soon renewed in the stomach, and all the miseries which flow therefrom; in short, what is called a *relapse* may take place. And although the primary disease may have been an inflammation of the lungs, the excessive dietetic stimulation applied to the stomach will directly sympathize with the former inflamed point, and once more set it in a blaze. For after an organ has passed through a violent acute disease, it remains in a state of exquisite sensitiveness, and ready to fall into disorder on slight provocation, until its nervous and other tissues have been again nourished by good blood.

I have first and specially spoken of the dangers of relapse arising from imprudent stimulation of the digestive organs, because it is the most ordinary one, because the stomach has the most extensive sympathies, and because the *too rapid* formation of blood is in itself a danger, as I shall presently show. Meantime, it must be remembered that the too early renewal of the specific function of *any* organ which has been diseased is a source of danger in convalescence. If the disease has been inflammation of the lungs, it may be easily renewed if a too cold—that is, a too concentrated—air is freely applied to them; not because it is cold only, but because it, in its then concentrated form, calls into strong play the specific function of the lungs—the chemical analysis of the atmosphere. So also, when the brain has been the seat of the acute disease, the application of subjects involving its

specific functions of volition and thought may readily rouse the old trouble, which was thought to be past. And the same obtains in all the organs of the body during the sensitive period of convalescence.

Blood-making itself has its dangers during convalescence. The presence of blood in any organ is at all times the great internal stimulus to the exercise of its vitality. An organ—the lungs or brain, for instance—has been through the ordeal of severe acute disease, and its condition is one of extreme exhaustion, and, *ipso facto*, of extreme sensitiveness. The arrival in its tissue of fresh blood is a healthful stimulation to the renewal of its function, if that blood does not arrive too rapidly, and does not contain unnatural stimulants, such as alcohol. But if, taking advantage of the fierce cravings of the stomach, large quantities of strong food, with very probably wine and other alcoholic liquids, are given with the futile aim of expediting recovery, the stimulation to the exhausted tissue of the formerly diseased organ may readily prove excessive, and tumult be again set up within it.

Another source of danger in convalescence is the too early exercise of the locomotive organs. It implies the too early exercise of the brain and spinal marrow, the seat and instrument of the *will* directed towards the locomotive muscles; it rouses therein an irritable action which causes them to send down to the digestive and other organs

important to recovery, an irritative sympathy which interferes with the whole process of blood-making, besides destroying the sleep of the nervous centres themselves. Plenty of properly tempered air is necessary in convalescence; but it is much easier to err on the side of too early than of postponed muscular exertion in that air.

Such is the process of convalescence, and such the dangers that attend it, under the most favourable previous circumstances of treatment by natural remedies. There is always some disagreeable sensation attending the hopeful progress of blood-making and deposit of fresh tissues; and I know no phase of a physician's duty which involves more caution and *honesty*, and no period of the sick man's suffering which demands more patience and self-denial, than this of convalescence. The sick man, freed from danger of death, is impatient to be strong; the doctor is tempted to yield to this impatience, and administer more stimulation than the frame can bear without morbid reaction; and thus they conspire to plunge the unlucky body once more into disease, or to postpone the advent of strong healthfulness.

What kind of a process convalescence from acute disease is when it has been treated by remedies which have in view to irritate internal organs to secrete, or to stupify their sensations, what a *second* disease it is, what misery it involves, how protracted in its duration, need not be here recited. In a work of mine, published *before* I had made

myself acquainted with the practice of the water cure, it may be seen that I had observed and denounced all these as objections and drawbacks to the ordinary medicinal plan of treatment in acute maladies. (See "The Simple Treatment of Disease," 1840.)

The above remarks will, I trust, suffice to exhibit clearly, though in a sketchy manner, the process by which a healthy activity of the body may pass into an unhealthy activity, and finally into a change of structure in the tissue of any of its organs. Some general practical applications growing out of the subject, such as the necessity for rest of, and non-interference with, the organs in a state of disease, have been made, and will, I trust, be impressed on the memory of the readers who may desire to use the treatment for particular diseases. In short, the truth that in every case, no matter what the malady may be, if recovery takes place, it does so by the action of the bodily organs themselves, and not as a direct result of the remedies applied, cannot be too frequently repeated. The contrary idea to this is at the bottom of all the old system of medication which insisted on the production of certain discharges from the body, and made them the only signal of healthy restoration, and which worried and wearied the organs thus urged to

discharge until all power of self-restoration was lost; the discharges, meantime, being nothing more than the results of the irritation set up by the remedy itself. Fortunately, much of this has passed away from the practice of the higher classes of the medical profession, although it prevails still too extensively among the masses of it in the country districts.

PART SECOND.

DISEASES OF DIFFERENT MEMBRANES OF THE BODY.

DISEASES OF A FEVERISH CHARACTER.

THE membranes are expanded forms of tissue, which either serve as a lining or a covering to the various organs. Thus the vast *mucous membrane* lines the whole of the contents of the chest, belly, and portions of the skull; its extent is enormous, finding its way, as it does, into the minutest cells of the lungs, liver, kidneys, glands of the belly, as well as into the large air tubes, the stomach and bowels, canals of the kidneys, and into the bladder. Its sympathies are as widespread as its extent, and no part of it—even that portion which lines the nostrils, and whose inflammation constitutes a common catarrh—can be morbidly affected without disturbing the rest of the body more or less. Yet this sympathy is chiefly of the kind which I have in the last chapter pointed out as “organic;” that is to say, it is generated in nerves which preside over the

nutrition, and not over the sensation of the different organs; the *sensation*, when present, being due to the other nerves of the organism—the nerves from the spinal cord. Now, the lining or mucous membranes do not possess so great a supply of nerves of sensation as the covering membranes; and the consequence is that they may be disordered to a considerable extent, even to the extent of organic disease, without producing pain, or indeed being suspected of disease from local signs. Cancer has been found in the stomach after death, whilst during life no symptoms save those of ordinary weak digestion existed; no pain, no anguish, no gnawing. But if the irritation in them be very acute, it involves the sensifc nerves that are mingled with their texture, and then distress and pain of some kind and extent are generated; as in belly-ache, gnawing of the stomach, &c. If also the mucous membrane lines a part which is thickly supplied with sensifc nerves from the spine (such parts as the nostrils, swallowing and vocal throat, and the urinary and uterine organs), an inferior degree of inflammatory action suffices to produce great animal pain and brain disorder, as well as organic sympathy. There are few more painful disorders than sore throat, and none more painful than inflammation of the bladder or womb.

Still, upon the whole, the ordinary inflammatory complaints of the lining or mucous membranes are exhibited rather by *disordered secretions* on their own surfaces, and by the *feverish effects* which they

produce on other organs, than by any decided animal sensation in the portion of the tissue inflamed. An irritated state of the lining of the liver canals and of the stomach proper will be shown by sore throat, brown or yellow secretions on the tongue, thick, fœtid saliva, and secretion generally of the mouth, and by more or less fever of pulse and skin; the only mark of disordered brain and spine being a certain amount of lassitude of limb and irritability of temper. It is precisely at this point of the disorder that it should be attacked by remedial measures, which should not be delayed until animal distress and pain arrive to show how much further the mischief has proceeded; or until the extent and intensity of the mucous irritation be such as to produce a serious amount of fever.

The membranes which *cover* organs are, for the most part, much more extensively supplied with nerves of sensation from the spine, and are therefore much more subject to animal pain than the mucous membranes which *line* organs. The former are also more dense and unyielding in structure, and their blood-vessels when overloaded, as in inflammation, are mechanically distressed, and press in all directions against the numerous animal nerves which run in their tissue, and thus very acute pain is produced. This is the reason why inflammation of the *peritoneum* (the membrane which *covers* the bowels) is so much more painful than that of the mucous membrane which

lines them. It is the reason, also, of what is called *dry colic*, in which the lining membrane secretes vast quantities of air, and causes painful distension of the unyielding *investing* membrane. So also *pleurisy* (inflammation of the covering membrane of the lungs) gives so much more acute pain than *bronchitis*, the inflammation of the membrane lining the air tubes.

Other covering membranes are (1) the sheaths, which cover the muscles and in which they move; (2) the covering of the joints; (3) the membranes which envelope the brain and spinal marrow; (4) the membrane which acts as a sheath to every individual nerve proceeding from the spinal marrow: and (5) the membrane which immediately covers and clings to all the bones of the body. Inflammation of the *first* and *second* of these constitutes *rheumatism*. Inflammation of the *third* constitutes *brain fever*, *insanity*, and *spinal irritation*. Inflammation of the *fourth* constitutes that wide-spread complaint *tic douloureux* in any part of the body, and *nervous headache* when it affects certain branches of nerves of the scalp: and when both it and the covering of the muscles are inflamed, *neuralgic rheumatism* is said to be present. This last is the only form of inflammation of the *fifth* investing membrane which need be mentioned in a work of this kind; but it is very certain that *tic* of the nerves, which run in the hard, unyielding covering of the bones of the skull, is a form of that painful malady which, under the name of

nervous headache, oftentimes drives the unfortunate sufferers from it frantic.

There remains one covering membrane of great extent and of exquisite sympathies, both organic and animal—the *skin*. The true skin is a mucous membrane; in fact, a continuation of the mucous membrane which lines the internal organs of the chest and belly. Like the latter, it pours out mucus which, thickened by the action of the atmosphere, forms the exterior surface which we wash. For the purposes of nutrition it has nerves of organic life; but it is the especial recipient of vast quantities of nerves from the spine which connect it with the brain, and with the whole of the internal organs; so that the skin may itch from some bad secretion in the stomach, or the stomach may free itself from wind which distresses it by a cold shock to the skin. So much has been published concerning this membrane by writers on skin disease, that it is unnecessary to dwell more on its peculiarities of structure and function, save only as they refer to the employment and operation of hydrotherapeutic appliances.

It has already been stated that this membrane is one upon which irritations of the internal organs have a constant tendency to throw themselves, and with which, at every stage of disorder, they have a close sympathy. The first effect of such irritation is to violently stimulate the blood-vessels of the skin, and to cause them to contract, and the whole skin to shrink. We see this in

what is called the "cold stage" of a feverish complaint, from a common catarrh to a typhoid fever; the skin becomes pale yellow, and, losing its plumpness, the face looks pinched and anxious and older; people say of a person with such a countenance, "He is going to be ill." The skin of the whole body is undergoing the same process meantime; and shivering and general unrest testify, in addition, to the passage of irritation from the disordered internal organs—lung, stomach, liver, &c., as it may be—to the brain, spine, and nerves of sentient life; which last, as I have said, abound in the skin more than in any other membrane of the body. After a longer or shorter period of time the blood-vessels of the skin, thus vehemently contracted, relax, and relax in proportion to the extent and duration of their previous contraction; the longer and more severe the shivering and cold stage, the greater the subsequent distension of the blood-vessels of the skin. The blood thus largely admitted into the skin causes heat, excessive heat, and the real feverishness, the "hot stage," is established. Not that all the heat of a feverish skin is due to the quantity of blood in it: the action of the brain and spine, by means of that mystery which we call nervous power, has quite as much to do with the generation of feverish heat; for in the worst forms of fever, when the body is, as it were, baking, the skin is yellowish, and gives no sign of excessive blood in its tissue. In short, in all degrees of feverish action it should

be borne in mind that the brain and spine are more or less involved. Irritation may exist in an internal organ without producing fever, as I have already stated; but fever cannot be present without some disordered action of the animal nerves. Now, when it is considered that the skin is profusely supplied with such nerves, all originating in the spinal marrow; that the same spinal marrow sends nerves to the internal organs, although not so copiously; it will appear of what importance the skin is in feverish complaints, both as a signal of such complaints, and a surface upon which to apply remedies against them. The most formidable danger in all feverish complaints is the serious implication of the brain and spine. Now, in the skin we have a surface whence the operation of remedies tells directly upon the spine and brain, all its nerves coming thence; and through the same spine and brain we operate on the internal irritation or inflammation, which is the starting point of the whole feverish process. Upon this fact is based the immense superiority of water treatment over all other modes of treatment in feverish disorders. Relief, frequently to an extent which I hesitate not to call marvellous, is brought immediately to the most sentient organs of the body; those organs, thus pacified, not only cease to send morbid irritation down to the stomach, lung, or other irritated internal part, but send *healthy* power to them, and thus aid them in the effort to relieve themselves, which effort, when

successful, is *cure*. In those fevers which run an invariable course of days, such as measles and scarlet fever, the ease which is brought to the spine and brain, and exhibited in the form of good sleep by night, quietude by day, and absence of tormenting thirst at all hours, renders the malady infinitely less distressing in its progress, and innocuous in its consequences. Never, after the treatment of such diseases by water appliances, do you behold the establishment of lung disease as a sequence of measles, nor of dropsy or wry-neck as a sequence of scarlet fever. And, let the fever be of any kind whatever, never do you find the convalescence such a painful process of bad nights, wearying sweatings, listless and prolonged languor, want of appetite, &c., as when the remedies have been applied directly to the internal irritated organs.

Thus the soothing result of water treatment to the skin in feverish complaints is explained by its operation through the spine and brain, and their nerves. But there is, besides that, a strong organic sympathy between the two membranes, the skin and mucous lining of the internal organs. It is even, perhaps, incorrect to call them *two* membranes, each being a continuation of the other at the various orifices of the body; in such a manner, indeed, that the body may be described as a tube *lined* with mucous membrane whose secretion does not coagulate, and *covered* with a mucous membrane whose secretion does coagulate. This position of the two membranes should be remem-

bered when it is asked, as it often is by administrators of coarse internal drugs, how an application of water to the skin can possibly influence the kind of secretion going on in the lungs, stomach, liver, womb, or kidneys. The reply is, that it acts on the same principle that an emetic does when it thins the secretion of the air tubes of the lungs in asthma or bronchitis, or that a purgative enema does when it relieves nausea and bitterness of mouth; both produce their effects by rousing an action at a certain point of the mucous membrane, so as to excite an action in another and distant point of the same membrane; and this is done by the medium of that organic sympathy which is found constantly to exist between continuous or physiologically similar tissues. In this manner it is that, in the case of the membranes which *cover* the organs, insanity or heart disease are not unfrequently the result of rheumatism; the membranes which cover the muscles and joints being anatomically and physiologically similar to those which cover the brain and the heart, and disease being readily transferable or extensible from one part of the membrane to the other. Let no one, therefore, wonder that packing in a wet sheet or sweating with a lamp, with a bath after either, should change the saliva from a thick to a watery state, so as to moisten the parched mouth; that it should do the same for the tenacious secretion of an inflamed air-tube of the lungs, and so induce easy expectoration; or that it should transform

cloudy into clear urine. The organic sympathy strongly existing between the two portions of the same mucous surface suffices to explain the greater part of the secreting operations effected by one portion on the other, in the hydrotherapeutic treatment of feverish disorders. When in the ordinary medicinal treatment a blister is applied over the chest for inflammation of the air-tubes of the lungs, the same sympathy is in play. Only they who are ignorant of water cure, and will not study it, cannot believe that anything less than a blistering agent will do this.

These brief explanations of the process by which the sensational and secreting operations of the body, in a state of feverish disorder, are affected by the remedies of water cure, will afford to those who desire to employ them some grounded reason for so doing. All the nervous agencies of the frame are brought into play, both those in which the animal distress of the fevered organ exists, and those upon whose disturbed function the morbid secretions depend. I ask, is it possible in any other treatment to have the self-curing power of the body more extensively brought into action than in the application to a vast and highly sympathetic surface, such as the skin is, of remedies which act both upon the living organs by which we feel, and upon those by which we are nourished and secrete? Yet whilst, on the one hand, ignorance has denounced the water cure in feverish complaints as dangerous from its activity,

it has also (and sometimes in the same person) pronounced it to be inadequate in the same complaints, because its employment is confined to the skin. However, what I now proceed to recommend in individual maladies is the result of many years of *experience*, a month of which is worth more than an age of inexperienced declamation.

It will not be necessary to observe any close arrangement of the maladies to be treated, after the general idea of the feverish condition and of the action of water cure upon it which I have endeavoured to give. Following the division of the membranes upon which I have made remarks, I shall speak first of the disorders of the lining, or mucous membranes, and next of the disorders of the covering membranes.

DISEASES OF THE LINING MEMBRANES.

CATARRH OF THE FOREHEAD, NOSTRILS, EYES, AND THROAT.

EVEN in this limited mucous disorder there is a shivering or cold stage. If the patient will take note of this, and *immediately* have recourse to rubbing with a dripping sheet for three or four minutes, with much friction in drying, and then immediately have the feet well rubbed in four or five inches of water at 90°, with one or two table-spoons of mustard in it, for ten to fifteen minutes,

then put on a cloak and walk about the room for fifteen or twenty minutes, he will in all probability prevent the further development of the cold. Should the dripping sheet heat very quickly and strongly in the process of rubbing, it will be well to be rubbed with a second or even a third sheet, each refreshed with cold water; though it will be better to have each succeeding one more thoroughly wrung out, because it is to be expected that there will be less power in the body to heat the last than the second. If there be only shivering and cold trickling down the back, and no languor and headache, the patient may walk out after the above process, and in such case the foot-bath should be about 70° only, and may be repeated at 60° after two or three hours. But if there is languor and headache, the foot-bath should be repeated at 90° every two or three hours, and the patient should remain seated or lying down, after the short walk in the room. Let him sip a wine glass of water every twenty or thirty minutes, and take such food as his appetite dictates, but no alcoholic stimulants.

Should the catarrh have gone beyond the stage of shiver and of dry nostril to that of feverishness of skin and excessive secretion of nostril and eyes, it will be necessary to pack the whole of the body in a wet sheet, or the whole trunk in wet towels, for half to one hour, according to the rapidity with which warming in it takes place.

The question of sheet or towels must be settled

by the amount of feverish action, and by the full or feeble ordinary health of the patient; a strong, feverish state of the nostrils and eyes, and a full-blooded body, both demanding the sheet, and the converse the towels. Almost always the patient pronounces the sheet to be the more comfortable of the two.

After the pack, rub with a cold dripping sheet all over for three minutes, and dry with much friction; swallow a small tumbler of water, and walk out for half an hour, provided that the head and limbs do not ache, nor the latter totter. In this latter case there must be no walking, and *therefore*, instead of the cold dripping sheet after the pack, a wash over for a minute or two in a shallow bath at 75° should be given, with much dry friction after it. This packing is best practised early in the morning; but if the febrile action returns after a few hours and is great, the pack may be repeated after the lapse of six or eight hours, or at bedtime. In the interval, have the feet rubbed in mustard and water, as before, regulating the temperature by the propriety of walking or not walking after it. If the nostrils continue to distil after thirty-six hours of this treatment, snuff cold water into them every two hours or thereabout. I have not found this of use—rather the contrary—unless the cold has endured thus long; the membrane is then becoming relaxed, and the cold tonic proves useful.

If there be soreness of the swallowing throat or

of the vocal throat going on with the catarrh of the nostrils and eyes, a thick cold compress should be worn all around the throat day and night, and should be re-wrung out of cold water every three or four hours. Against the *vocal* sore throat, with hoarseness, fomentation with water at 120° for half an hour over the front half of the neck should be used at bedtime: the cold compress can be put on immediately after it. I have not found hot fomentation of much use in the *swallow* sore throat, probably because that is mostly connected with some amount of stomach derangement, which requires to be treated by fomentations of the pit of the stomach and other means to be mentioned when speaking of digestive derangements.

The *diet* in ordinary catarrh of the head and throat should be non-stimulating during the first twenty-four or thirty-six hours, or longer if the secretion remains very acrid and the sneezing frequent; some weak animal broths, and all kinds of farinaceous articles and weak tea, composing it. But if the secretion becomes thicker and less irritating, and the general sensations of uneasiness about the head diminish, strong animal soup or white meat are desirable. The state of the appetite must, of course, regulate much on this point.

As all the feverish signs diminish, the packing must diminish also, and cold shallow baths on rising, and a dripping sheet at noon will rapidly renew the tone which fever and packing had

reduced. But a head catarrh, treated hydrotherapeutically, rarely lasts more than three or four days.

My purpose in the arrangement of the maladies is to travel, as it were, from the head to the heel, and, according to that order, *sore throat* would come the next to be treated. But, before that, it may be better to pass through a disorder which has much to do, in the exhibition of the symptoms, with catarrh of the head and throat, although it embraces many more organs of the body. I allude to that epidemic mucous disease which still bears its original Italian name—

INFLUENZA.

In this malady there is simultaneously great irritation and feverish action of the membranes lining the nostrils, vocal throat, and, more or less, the air-tubes of the lungs. The animal nervous system is also involved in this action: for pains of the loins and limbs, headache, and general sense of much prostration of strength, are added to the signs of mucous disorder, and render it a most distressing complaint. The inflammation of the membranes of the nostrils and eyes is not of that vivid kind which obtains in ordinary catarrh, and which is accompanied and relieved by copious and

acid secretion from the nostrils and eyes. The latter organs feel to be stuffed, heavy, and frequently painful, but do not distil freely. So also in the windpipe and air-tubes of the lungs there is not much secretion, but there is a sense of stiffness which provokes frequent cough for relief, and the cough is acutely painful along the windpipe, scraping it as it were. The fixed hot stage is scarcely ever attained throughout the attack, cold shiverings constantly intervening. There is often a sinking and gnawing at the pit of the stomach, producing a sensation as if a stimulant would do good; but appetite is wanting. The pulse is small, rapid, and weak, although often sharp-edged. There is great look of distress in the face, which, although red in places, looks drawn.

I have detailed the symptoms of influenza for the purpose of exhibiting the mingled character of its fever, and the consequent difficulty of treating it by active measures. Such is ever the case when the animal nervous system is much involved with acute mucous irritations. The mucous symptoms show active feverishness, whilst the symptoms dependent on the nerves show much depression; and between the two it requires much nicety of remedial administration. When, twenty-eight years ago, this disease appeared all over England in an epidemic form, after a lapse of more than sixty years, in which no such epidemic had been observed, not a few practitioners, looking only at the inflammatory signs of the windpipe and air-

tubes, bled their patients either with the lancet or with leeches: and such patients almost invariably died. There was then a general rush of treatment in the opposite direction, and incessant doses of strong food, with frequent doses of hot wine and water, or spirits and water, drove not a few into typhoid fever.

I confess that, after much and minute examination of this really formidable malady (formidable, because if neglected or exasperated, either by the continuance of the causes or the errors of the treatment, it conducs to fatal fever or lays the foundation of some grave chronic diseases), I have come to the conclusion that the less positive treatment that is applied the better. The injunction on which I have so strongly dwelt in the first chapter, regarding absolute rest of the limbs and animal nervous system, applies with especial force to influenza, wherein from the outset that system is so involved. From the first hours of the attack, therefore, the recumbent posture should be kept, and the better if in bed. In the morning a packing with a wet towel from the throat to below the hips down the front of the body should be practised, and if it warms speedily take it off after thirty or forty minutes, and put a second one on for the same time. Then rub the skin that has been packed with a cold wet towel, rather well wrung out. Wear a compress on the front throat and upper half of the chest day and night, and wet it every four hours. At noon have the feet

rubbed for eight or ten minutes in strong mustard and water at 95° , and immediately afterwards have the belly fomented for forty minutes with water at 120° . This fomentation to be repeated at bed-time if the sense of sinking at the pit of the stomach and the shivers continue. But if it has caused or increased headache, it will be better to substitute *cold* fomentation of the belly for an hour and a half, changing the towels every half-hour, even though there be shivers. Follow this routine of treatment every day until, from the slow warming of the pack and compress, and the easier and more free expectoration, it is judged that the feverish action is nearly gone. Then rub all the body with cold wet towels, whilst seated on a chair, on rising; continue the foot-bath at noon, at five or six in the afternoon, but at 70° ; and the compress to the chest during the day only. It will be obvious that if the converse is the fact, if the fever and windpipe symptoms *increase*, it will be necessary to pack with the cold towels as above, two or even three times a day, to foment the stomach at noon as well as at bed-time (and this may be done immediately after packing), and to change the throat and chest compress every two hours. If the malady shows a tendency to end in perspiration, in addition to easy and copious expectoration, it would be better to cease all applications except the chest compress by day. Nature is then doing her best to relieve the interior, and there is risk in interfering by active operations.

The *diet* in influenza must be regulated by the predominance of inflammatory or of nervous symptoms. If the cough is very painful and produces but little expectoration, and that of a clear tenacious character; if the skin is very hot, the face puffy, the throat dry, the pulse small, sharp, and rapid—weak tea with much milk in it, farinaceous liquids or solids, with a breakfast cup of beef or other animal broth once a day, will be the safest food to give. Sweet oranges, grapes, roasted apples, lemonade, may also be taken if the patient desires it. Ices are good, but some cold water should precede them, so that they shall not rudely shock the stomach by their temperature. But if the nervous symptoms predominate—such as intense headache, shivers, pains of loins and limbs, sinking of pit of the stomach, great sense of weakness and depression, frequent passage of urine, difficult or very drowsy sleep; if the patient makes more complaint about these than about the other symptoms above related, the diet should be of a more stimulating kind: the patient may take a breakfast cup of some animal broth three or four times a day, with bread, rice, or barley in it, with tea and fruits besides if the stomach desires them. In any case the state of the patient must be watched, and the food made more or less stimulating according to the series of symptoms just enumerated.

I cannot quit the subject of influenza without reiterating the injunction regarding the necessity of rest of the limbs and animal nervous system

generally, *from the first appearance of the symptoms.* The persistence in the exertions of business, pleasure, and locomotion, when the shivers, headache, and pains of the loins or limbs have made a *slight* commencement, has taken more persons to their graves than appear in the Registrar General's tables, for the record of the end of such persons has been by typhoid fever alone, or by inflammation of the air-tubes attended by fever of a nervous and typhoid kind, all chance of which may be avoided if the precaution here insisted upon and the treatment above stated be faithfully practised. Even when patients thus reckless recover, they will most frequently find that the seeds of tubercle in the lungs, of congestion of the brain, of tic douloureux, of Bright's disease of the kidneys, &c., have been sown in the constitution, to curtail the usefulness and duration of their lives.

SORE THROAT.

SORENESS OF THE SWALLOWING THROAT.

I HAVE judged it right to be precise in the denomination of this malady, because laymen are very apt to call inflammation of the windpipe sore throat, without distinguishing it from the inflammation of the tonsils and gullet or swallowing throat, to which a somewhat different treatment is applicable.

Sore throat of the gullet is known (1) by swelling of the tonsils, with much bright redness of the whole throat as far down as it can be seen; or (2) there is a less bright redness of the whole throat, without swelling of the tonsils; or (3) finally there is puffiness and partial falling together of the sides and back of the throat, with slighter, occasionally only marbled, redness of the lining membrane.

The *first* of these is the ordinary sore throat, which is the result of chill, general or local; it occurs in persons of full blood and strong constitution, and mostly is unconnected with previous or present stomach derangement. The *second* is found connected with acute disorder of the stomach, may come on without any recognizable chill, and is more likely to appear in low states of the body. The *third* is rather a nervous than an inflammatory disease, and rather a chronic than an acute one; for it accompanies some forms of chronic indigestion, although in highly nervous persons it may come on as the result of a single fit of indigestion, or a fit of anger, surprise, or sorrow: it is the ordinary *relaxed sore throat*. It may be remarked, as regards the causes of sore throat, that mental emotions play a great part in them, an excess of rage not unfrequently causing an attack, and worry and sorrow keeping it in persistence—a fact of importance which is not ordinarily kept in mind; for if irritations from the brain in the shape of anger and sorrow influence

the profusely nervous throat, so will the irritation of brain-labour of any kind affect it injuriously.

The treatment of the ordinary inflammation of the tonsils is sufficiently simple. If the patient, so soon as he feels stiffness in swallowing and dryness of throat (before any actual pain of throat is felt), would envelope the whole neck with a thick-folded, cold, wet towel, and keep this well covered with dry flannel, he may in the majority of instances go to bed with an incipient sore throat, and rise in the morning without any distress there at all. If it has gone beyond this and there is fever, the whole body should be packed in wet towels or in a wet sheet for half to one hour, according to the rapidity of warming: the throat should be thickly packed at the same time. A shallow bath at 70° for two minutes after it, or rubbing with a wet sheet all over for two or three minutes; it matters little which of these is used, as the patient ought not to walk after the packing, and in all febrile complaints the frequency of this pack must be regulated by the activity of the disease and fever. It may be necessary, when fever rages exceedingly, to pack two, three, or four times in immediate succession, until the last sheet warms but slowly; then give the bath or wet rubbing sheet. Between the packings a thick cold compress to be worn *all round* the throat and neck, and changed every two or three hours. I have not often found hot fomentations of much use in this sore throat, though they may be tried,

in order to palliate the acute pain. As headache generally prevails, foot baths at 80° , with mustard in them, should be tried two or three times in the day, for five or eight minutes, rubbing all the time. If the fever diminishes, but the local pain does not, the pack must be diminished: the compress round the throat should be applied only for three hours at a time, leaving an interval of three or four hours between each application of it. In some of these intervals apply a poultice made of half mustard and half wheat or linseed flour for half to one hour, smearing the surface with camphorated cerate after each poultice. If the throat evidently tends to suppuration, omit the general packings, and only sponge the body all over with water at 80° at bedtime and on rising, and instead of the cold compress apply a warm poultice of linseed-meal all round the throat, on the surface of which poultice sprinkle five grains of powdered camphor, and change it every four hours. Leave the rest to nature.

It is almost superfluous to speak of the *diet* in this kind of sore throat, for, when it is severe, the patient is unable to swallow anything without the greatest pain, and the action of the muscles in swallowing only aggravates the mischief. How much more must it do so when the convulsive and complicated act of *gargling* is practised! I never knew gargling, no matter what the liquid used, of the smallest utility in this acute sore throat. Small pieces of ice, gradually melted in

the mouth, small sips of cold water, orangeade, lemonade, are sufficient for the maintenance of the body in this highly inflammatory complaint, whilst they bring the most comfort to the local distress. The body will get no harm from abstinence from all other food during the fever, and when that diminishes the desire for it will return, and farinaceous and weak animal liquids may initiate the feeding process again.

In the *second* kind of sore throat the accession is not so rapid, so there is more time for treatment before it becomes very fixed. Medical men call it *erythematous*, as it seems to run over the surface of the lining membrane. It is of the kind which may produce *diphtheria*, its tendency being rather to secrete tenacious matter on the surface of the membrane than to dip down into the tissues underneath the membrane, and there deposit liquid matter, as in the previously-named sore throat. Perhaps this is the reason why it is less painful than this last, the sensation being rather that of stiffness and burning than sharp pain. However, it is most distressing; it would seem as if the nerves of the region which came from the spinal cord are strongly involved, for it causes more restlessness and sleeplessness than any other kind of sore throat, and the mind is more bent upon it. If it spreads forwards towards the windpipe and invades it, croup and hoarseness are the results. As I before said, there is always some previous stomach derangement, the result of wrong food; and this

causes poor blood and low bodily state, another cause of which last also is foul, infected, or epidemically loaded air.

In treating this kind of sore throat, the low state of the body must be kept in view, although feverishness has also to be treated. The most safe plan is to pack, at first with one towel only, down the front of the trunk, for half to three-quarters of an hour, and if that heats rapidly another towel to the back may be added in the next packing. In like manner, the frequency of the packing must depend upon the fever and the rapidity of warming in the towels: sometimes a pack three or four times a day is necessary. Morning, noon, and bedtime, foment the front and sides of the throat with water at 120° for twenty to thirty minutes each time, and between the fomentations a cold compress should be maintained around the throat, keeping it very high up to the ears and close under the jaws, and wetting it afresh every three hours. The stomach should also be treated by fomentations at 120° , applied to the upper half of it simultaneously with the fomentation of the throat, but extended beyond that to three-quarters and one hour. A compress over the stomach constantly, day and night, refreshing it every four hours. Whenever the fever is seen to diminish, confine the treatment to the stomach and throat fomentations and compresses. Throughout the complaint drink cold water freely. As the stomach is implicated, it is well to take only very small

quantities—a wine glass—of animal broth every two or three hours, as there is, on the other hand, depression of the powers. This may be supplemented by farinaceous articles, liquid or solid, as best suits the swallowing; fruits and vegetable acids it is better to avoid. Take all possible rest of body, and be very careful not to use the voice.

To the *third* kind of sore throat—namely, that which goes by the epithet *relaxed*—the treatment that is applicable consists in tonic stimulation of the exterior throat itself, and of the nervous system generally; for such relaxation always indicates a failure of power after some previous excitement of the nerves, or the withdrawal of some ordinary stimulant, such as dry and cold air. Hence, relaxed sore throat so often follows on anxious and irritated conditions of mind, or else comes on with humid and unwholesome atmosphere; and for this latter reason it is more common in autumn than in any other season. Occasionally, the *second* kind of sore throat passes into this kind, which thus becomes its *chronic* state, as it were.

As fever rarely if ever attends relaxed sore throat, it is not necessary to employ packing of the body either with sheet or towels. Frequent ablution of the throat, by emptying a sponge on the nape of the neck for two or three minutes, morning, noon, and night, is the best local measure. In this throat, since there is not pain

nor active inflammation, may also be employed cold water gargles for two or three minutes four or five times in the day. Compresses round the throat seldom do any good here. The general tonic treatment should consist of cold sitz baths for ten to fifteen minutes at noon and afternoon, with a walk for half or three-quarters of an hour, and a tumbler of water after each. Sponging of the spine during the first three or four minutes of each sitz bath, will add to their usefulness. A shallow bath on rising for three minutes, and a walk after it, should be taken. As there is always more or less of stomach derangement, or even of liver congestion, in this kind of throat, it would be well to wear a stomach compress all day, wetting it three or four times in the day. And if the relaxation does not recover after four or five days of this treatment, there will be ground to suspect the state of liver just alluded to; and then a lamp sweating for ten minutes at noon, with a shallow bath for two to three minutes after it, should be tried for two days in succession, omitting the third, and then for two more days; continuing all the rest of the treatment.

In the *diet* for *relaxed sore throat* care is to be taken not to rush in the direction of stimulation, as there is temptation to do, looking to the causes and the symptoms. It must be remembered that in all cases of exhaustion after excitement there is internal stagnation of blood; as also when the external stimulation of dry air is withdrawn. If

in this state of things you put alcoholic or concentrated animal stimulants to the nerves of the stomach, you certainly, for a brief time, enable the latter to disperse the blood which is oppressing it; only, however, to insure its more fixed return when the stimulation is over; and it is in consequence of this process being rashly and obstinately enacted that this kind of sore throat is apt to pass into ulceration. Animal food is necessary in this complaint; but as it should be carefully administered, it is better to take only poultry or other white meat once a day, changing it for brown meat now and then, or altogether, if the throat improves. Soup does not appear to be a good form of animal diet herein. Indeed, much liquid of any kind is undesirable; so that tea or cocoa should be taken sparingly. Eggs are bad in relaxed sore throat. Stale bread with very little butter, farinaceous articles, fresh ripe fruits, are the only matters that can be added to the meat already mentioned. Provided the cause of the malady is to be found in moist and badly oxygenated air, and *not* in mental emotions, about a wine glass of claret in double that quantity of cold water may be taken at the meal of animal food; but anything like a heating or stimulating quantity should be avoided. When mental excitement has produced the state of body with which this disorder is connected, it is very inclined to be obstinate and to pass into the chronic condition; especially in the female sex.

SORENESS OF THE VOCAL THROAT.

CROUP.

Ordinary inflammation of the organ of voice and of the windpipe is the malady which causes hoarseness, cough, and painful swallowing in the front of the throat. Specific, or as it is the fashion to call it now, *diphtheric* inflammation (an epithet borrowed from the French, who have given it that name for the last fifty years at least), constitutes *croup*, which, besides the hoarseness, is accompanied with sharp noisy cough, sibilant and crowing sounds as the air passes through the organ of voice, and strangling sensation in that organ.

The first of these conditions is frequently only a sort of congestion and puffiness of the membrane which lines the organ of voice; and as this state of the membrane interferes with the accurate command and modulation of the fine muscles upon the play of which the voice depends, hoarseness, or even voicelessness, is the result. But this is a state which comes on suddenly, without previous or accompanying signs of fever; it is not, strictly speaking, an inflammatory state. However, as there is more or less uneasiness and sense of constriction in the part, it is well to soothe it by applying the cold wet compress to the throat all day, or all night, or both. But it is also

necessary to apply tonic sponging with cold water to the throat three or four times a day, for two or three minutes each time. If this be done, and if all such irritants as coffee, alcoholic liquids, especially beer, salted meats, be withdrawn, the trivial fulness of the lining membrane of the windpipe speedily disappears.

But if the hoarseness be ushered in with shivers, followed by more or less fever (and if the last-named state be neglected, this may come on, as the consequence), recourse must be had to packing, either with towels or with a wet sheet; and this should be repeated daily, or twice a day, according to the fever and difficulty of relief of the throat by expectoration. The washing after each packing to be with water at 80° , using much friction in drying. So soon as expectoration becomes no longer scapy and painful to effect, and the matter expectorated is moderately thick and yellow, and not lumpy or very tenacious and stringy, the necessity for packing is past. But a thick cold compress should be kept round the throat from the outset of the attack, and should be refreshed every three or four hours, until the expectoration is altered for the better as above mentioned; and then, whenever the compress is refreshed, the throat should undergo a tonic sponging with cold water for two minutes, and gradually the compress may be withdrawn, omitting it during day-time at first.

As the complaint usually comes on during

harsh weather, it is better not to expose the inflamed organs to variations of temperature of air, and therefore it is safer to remain in the house; the rather, as, when the inflammation has terminated in free and easy expectoration, the passage into the open atmosphere acts like change of air, and rapidly strengthens the enfeebled lining membrane of the windpipe.

The *diet*, besides excluding the articles mentioned under the last-named morbid condition of the throat, should include only very moderate quantities of animal food, and that chiefly of the white kind, with farinaceous things, ripe fruits of the soft kind, and fruity liquids, such as apple tea, orangeade, &c. Cold water may be taken abundantly if the fever of mouth and throat are eased by it. Still, it must be borne in mind that inflammation of the windpipe sympathizes wonderfully with the stomach, whose digestive irritation constantly is converting it into a chronic disease; or else keeping up such a degree of sensitiveness in the windpipe as, when winter comes round, to cause a renewal of the acute state, until at length permanent thickening of the membrane and voice is established, or else the inflammatory action creeps gradually down the air-tubes of the lungs, and bronchitis is added to the original complaint. I have seen the same result from obstinate perseverance in smoking tobacco. Finally, it must be borne in mind that the womb and its appendages have strong sympathies with the windpipe

and organs of voice, and that therefore great effort should be made to cure the inflammation before the monthly illness comes round, as it is apt to exasperate the irritation of the throat, and render it chronic.

That inflammation of the windpipe called *Croup* is a formidable disease to deal with. Nevertheless, I am so convinced of the utter worthlessness and harmfulness of the old style of treatment, that I do not hesitate to indite in this popular work and recommend the hydrotherapeutic treatment of it, although in most *serious* disorders my suggestion is that a medical man should be sent for, no matter what his practising predilections may be, rather than that the responsibility should rest with the patient's friends. In years long gone by I smarted under the loss of a little prattling child who was carried off by this malady; but the sadness with which, even now, I look back to that misery, is doubled by the recollection of the sufferings which she had to undergo *from the treatment*—treatment administered by some of the most kind and able practitioners in London, but whose practice in croup was exactly what it had been for a hundred years—emetics and prolonged nausea, mercury to salivation, endless blistering, and drastic purgatives. But at all events, as the malady frequently comes on suddenly, I would advise the following applications to be made *directly*, whilst waiting for further professional aid:—

As soon as you hear the hoarseness and ringing croupy respiration and cough, pack the whole body in cold wet towels or sheets; pack the throat all round at the same time. Change the pack every half hour or forty minutes, for three, four, or five times—as often, in fact, as they continue to warm rapidly. After the last one let the patient sit in four or five inches of cold water, and let the whole body be rubbed by two or three attendants at the same time vigorously with their hands, splashing the water constantly against the body. This friction should go on until the patient shivers a good deal—it may be, at the end of eight or ten minutes. Then dry with much friction and place in a warmed bed. Place a thick, cold, wet compress round the throat, and another on the front of the chest, and abundant blankets on the bed. In half an hour strong reaction will begin and feverish heat be generated, which will very probably terminate in free sweating, and, if so, the windpipe and organ of voice will sweat also, and the matter secreted in those parts, instead of being tough and adhering to the mucous surface, will become liquid, and, coming up with cough, will bring with it the tenacious exudation which threatened to suffocate the patient. Should, however, the feverish reaction not terminate in sweat after three hours, it will be necessary to pack and rub in the bath as before. It may be even necessary to repeat this process three or four times, at intervals of four or five hours: but if

persevered in, and if the compress of throat and chest be continued and refreshed every two or three hours, the ultimate change of secretion from tough to liquid is *certain*. And in the meanwhile they who nurse the patient will be astonished at the comparatively easy respiration, and the absence of that restlessness which forms so distressing a feature in this disease, the rather as it falls to the lot of little mortals who are not able to control their sensations, even if they could understand the necessity for doing so.

All this, no doubt, appears very dreadful to those who know only the old *régime* of a hot bath, emetics. &c. But repeated experience during twenty years has convinced me that it is by far the most *certainly* curative mode of treatment, and entails the smallest amount of danger and suffering to the patient. It fulfils, in short, the "*cito, certe, et jucunde*." Besides, it can be applied *at once*;—an important point when it is considered how often the first sign of croup is heard in the middle of the night, when hot baths are hard to procure.

Of course, when the expectoration becomes easier, the necessity for packing is past, and the compress round the throat and on the front chest is all that is required. I say on the chest, because it is now well ascertained that some amount of inflammation of the air-tubes of the lungs exists from the commencement of croup, and that it is an intense and extensive amount of it which

ultimately kills. So that, although the *diphtheric* inflammation at the windpipe may have ceased, there may still be some lingering of bronchial inflammation. In the above treatment I lay great stress on the cold friction in the bath; it should be done perseveringly with the flat hand, and without fear of the cold water. The greater the shiver in it, and the redder or even more blue the skin, the fiercer is the reaction to the surface, the greater the probability of perspiration, and therefore of liquid secretion from the windpipe. It should be added that the air of the room should not exceed 65° , and that there should be plenty of it. The *diet* to consist only of farinaceous and other demulcent liquids, fruity drinks, and weak tea.

Spasmodic Croup is most commonly a symptomatic disease, the result of some irritation in another organ. As its name implies, it consists in a spasm of all the muscles which regulate the organ of voice, and of the muscles surrounding the windpipe. These muscles are supplied with nerves which originate almost at the same point where the nerves going to the stomach originate, in the spinal cord; in fact, branches from the latter nerves proceed to the organ of voice. It may thus be easily conceived how irritations in the digestive organs may induce spasmodic croup. So also worms and hardened motion in the lower bowels, by operating on the spinal marrow, may cause a seizure of the same kind. Electric changes

in the air acting on the spinal nerves in the skin also bring it on. Withal, it must be observed that a certain organization of the organ of voice predisposes to this malady, and that the tendency to it is frequently hereditary, and is found in several children of the same family. Unlike inflammatory croup, the occurrence of it is not limited to childhood, but may persist to thirty years of age.

In treating spasmodic croup the endeavour should be made, in the first place, to ascertain its source; and in doing so it will be found, nine times out of ten, to be in the abdominal organs: in which case fomentation of the belly with water at 120° to 130° should be at once practised for one or two hours. Even whilst this is going on the feet should be hung over the side of the bed and rubbed well for a quarter of an hour in water at 80° , made stinging with mustard. At the same time also apply a cold wet compress to the nape of the neck, and refresh it every twenty or thirty minutes. Drink water at 70° copiously, a small tumbler every half hour; very cold water is apt to augment the tendency to spasm in the act of swallowing. Administer an injection of half a pint or a pint of cold water up the lower bowel. This plan will be found to diminish the spasm rapidly; but as the cause is very often one that cannot be removed immediately (such as a fit of indigestion), the fomentation will require to be repeated for a day or two at bed-time, and a cold

packing of the belly, changed every half hour for three or four times, to be used on waking in the morning. The injection, too, should be given daily, and the large water drinking continued, diminishing the temperature of it as the spasm diminishes. If worms are the exciting cause, injections of strong chamomile tea, tepid, should be employed instead of water.

If the attack is traceable to electric changes in the atmosphere, as in heavy rain, violent wind, or actual thunder and lightning, a foot-bath as above should be first given, and then the body should be sponged all over for ten or fifteen minutes in water at 100°; the aim being to soothe the skin as soon as possible without calling upon it to re-act. After the bath put a poultice of one part of linseed to two parts of mustard meal on the nape of the neck; *not* on the front of the throat, for strong stimulants placed on the spasmodic point frequently augment the irritation. Keep this on for an hour or more, and repeat it and alternate it between the shoulder-blades and the nape of the neck if the spasm persists in a continued or intermittent form. The *diet* to consist of crust of bread soaked in some weak tea; and, if the appetite permits it, some clieken and boiled rice; no green or cooked vegetables, nor fruits.

INFLAMMATION OF THE AIR-TUBES OF THE LUNGS.

COUGH.

As *Cough* is only a symptom of inflammatory or nervous irritation of the lungs, I have coupled it here with their inflammatory condition only, because the nervous will come to be spoken of when treating of the disorders of the organs which originate it, the stomach, liver, womb, &c.

A layman will scarcely be able to distinguish between a cough caused by inflammation of the substance of the lungs, and that which is caused by acute inflammation of the lining membranes of their air-tubes. This is of the less consequence, however, as the hydro-therapeutie treatment applicable to both is, as nearly as possible, the same; and if they be taken at an early stage, both are wonderfully tractable in persons not otherwise dilapidated in health—a condition of success which obtains in the employment of all treatments. If a patient complains of rapid and difficult breathing, with, frequently, sharp pain at some point of the chest, great frequency of the pulse, and sometimes palpitation of the heart, restlessness, and almost impossibility to take the recumbent posture, incessant cough with slight and difficult and painful expectoration or else none at all, general feverishness, puffed and anxious face; he may be said

to be suffering from acute inflammation of the air-tubes of the lungs. The modification of the intensity of these symptoms will mark the extent of the disease, for the inflammation may be either general or confined to a small portion of the air-tubes. The amount of exposure to the causes, cold and damp, will also give some idea of the extent of the malady.

Keeping the degree of the symptoms in view, packing with wet towels or sheet should be practised at the earliest possible date, as in all cases of feverish and inflammatory action. It may be necessary to pack two or three times in immediate succession, and to do this twice or more in the day, for the malady is one that brooks no delay. After each single or after each double or treble packing, as it may be, rub the whole body with towels rather well wrung out of cold water for two minutes, and dry effectually. Wear a cold water compress over the whole of the front chest, and even partially on the sides of it, and wet it afresh every two hours or so. Keep the patient half sitting up in bed, even when packed. Let the air of the room be not higher than 65° , with few persons therein to breathe it. As a general fact, acute attacks of bronchitis occurring in persons affected with the same disease in a chronic form do not require or bear so much packing as when it is an isolated seizure; and a mild poultice of linseed and mustard flour may take the place of the compress for two or three hours out of every seven or nine hours.

By this treatment, simple as it is, I have seen some dozens of acutely inflamed lungs pass from the painful, strangling, dry state, to painless and placid respiration and facile expectoration, in the course of three days. I know of no acute disease in which water treatment is more effectual and safe, yet there is none in which the non-experienced dread its application more. I have used the above-recited treatment in children of one year old and in persons of sixty years, and at several intervening ages, and I never knew it fail to subdue the acuteness of the inflammation and cause it to disappear altogether, or to subside into the chronic condition in which it had existed in the patient for years before. But it must be treated vigorously, and without fear of "cold wet things" to the skin, and other bug-a-boos which ignorance and total want of experience conjure up: these wet things cannot do half the harm that tartar-emetics and foxglove do every day; and when they have eased the chest, they do not punish the stomach with some shape of dyspepsia for weeks or months afterwards.

In proportion as the expectoration becomes easier and more copious the packing should diminish in frequency until it ceases altogether, and then friction with wet towels, whilst seated, should be practised morning and evening, for two or three minutes each time.

Change of room should precede out of door air; and the *diet* should be very gradually restored

to its former strength. During the attack none but farinaceous and fruity liquids should be taken unless it occurs in elderly persons who have had *chronic* bronchitis, and then animal broths or white animal articles of food should be given. When expectoration is easy, the chest compress should be continued for three or four hours at a time; then rub the chest with a cold wet and a dry towel, and put a piece of flannel over it. After three or four hours renew the compress for three hours, and so go on increasing the period of omission until all necessity for it ceases.

Chronic cough and chronic inflammation of the air-tubes into which, in enfeebled states of the frame, the acute disease often lapses, will be found treated of in my work, "The Water Cure in Chronic Disease." A bath at 60° or a rubbing with a wet sheet every day on rising, with care of the stomach, is the most effectual method to prevent acute attacks in the midst of the chronic state.

If it be evident that the stomach is much deranged in acute cough, fomentation of the stomach with water at 120° for three-quarters to one hour daily at noon or night, with a cold compress on the stomach in the intervals, should be added to the treatment already indicated, and the stomach should be rested from food as much as possible.

ACUTE INDIGESTION—ACUTE BILIOUS DISORDER—
SICK AND BILIOUS HEADACHE.

As the liver is one of the organs of digestion as well as the stomach, it is difficult to separate their diseases so as to make them decidedly distinct, the stomach drawing the liver into its own irritation, and *vice versâ*. There is, however, a certain form of disorder which invades the left or large end of the stomach specially, and in which there is *more* acidity, risings of food, nausea, flatulence, and *less* bitterness and putrescency of mouth, less dull headache and general dulness, and less actual vomiting. In *acute* indigestion there is more restlessness of the nerves, and limbs, and temper; in *bilious* indigestion there is more stupor, moroseness, disinclination to move. Want of power to take food and voracious appetite may occur in both in a most eccentric manner; but the latter is more common in the bilious than in the simple indigestion: and absence of appetite is more common in both. Headache, intense yet dull, is a more common accompaniment of bilious than of stomach indigestion. Stomach indigestion generally drives sleep away: in the bilious form it can scarcely be prevented from invading the patient's brain.

As I said, however, such trenchant distinctions as these are not nearly so frequently to be met with as the cases in which both the sac of the

stomach and the tubes of the liver are simultaneously involved in irritation of an acute kind: and the layman for the most part says that he is "bilious," when such attacks come on. Accordingly, if the following symptoms are present in more or less totality—viz., nausea, aversion to food, or else craving hunger, more or less headache and dulness in the head, sour or bitter mouth, foul tongue and breath, disinclination to move, flatulence, retching, scanty, turbid, or dark-coloured urine, bowels more or less constipated, irritability of temper or gloom, and desire to be left alone, more or less fever of skin, sometimes thirst—the following treatment should be applied as soon as may be:—

Foment the belly with water at 120° for three-quarters of an hour. After this pack the trunk in a wet towel behind, another in front of the trunk, and a third folded over the bowels. If these become heated rapidly, that is, in thirty or forty minutes, repeat the packing immediately for the same space of time. During the packing apply a wet towel to the head, and keep it cold. Also a hot bottle to the feet if they are cold, as often happens. After the packing, sponge in a sitz bath at 60° for two minutes, or rub with a wet towel: the former if it does not distress the patient very much to move: the latter if it does. If the fever be strong the water should be quite cold, or the rubbing towels very wet. After the packing place a thick cold compress over the

bowels, and wet it afresh every two hours or so. If the feet are cold, rub them in three inches of cold water and mustard for five minutes, every three or four hours. If, on the contrary, they are uncomfortably hot, sponge them in water at 110° for five or eight minutes every three or four hours. Keep a cold cloth to the head constantly if it aches. Drink cold water freely, half a tumbler every half hour or so. Ice occasionally increases the headache of this state, and it should always be immediately preceded by a draught of cold water. If vomiting comes on, drink cold water copiously; it not only eases the act of vomiting, but leaves the stomach less exhausted after it. The repetition of the fomentation and packing may be made in six hours if the symptoms continue severe; and it will be found that the interval between these processes may be lengthened as the irritation subsides. If the bowels have been torpid for some days before the commencement of the disorder, it would be well, before beginning the fomentation, to administer an enema of a pint of warm water and two ounces of olive oil. But if they were opened just before the attack, the enema had better be postponed until after the fomentation and packing; for it is very likely that these processes will act as aperients. It should be added that the whole of the processes above enumerated should be repeated after four or five hours, if the symptoms still remain in an acute state.

The *diet* during the acute period of gastric

bilious attacks of this kind, may be stated in one word—water. No matter what signs of what is called weakness by the uninstructed may be present, no attempt to feed or stimulate should be made; even when the sinking at the stomach is accompanied with craving hunger, all nutritious matters should be avoided: for the stomach is in a state of intense *irritation* (whatever the limbs may be), and will have to digest it laboriously, distressingly, and with a sure deterioration after the process; or else it will reject the food and fall into further exhaustion. Not until every symptom of nausea, sinking, bad taste of mouth, and irritability or gloom of mind have passed, should even gruel, arrowroot, or other bland matters be given; and it requires great nicety to gradually improve the diet so as not to renew the stomach and liver irritation. Headache will often remain after all the stomach signs have disappeared, but it is then a purely nervous and scalp pain, and need not deter from stronger food. I have laid stress upon the abstinence from food, because the prostration in these acute stomach attacks is a temptation to the layman seldom resisted, to *strengthen* the limbs at the expense of the stomach, and because the attempt always fails, frequently laying the beginning of bilious or gastric fever, especially in children, in whom such attacks are common.

This leads me to mention a cause of stomach disorder in growing children, which requires some modification of the above-recited treatment.

It is very often found in such children that the appetite fails, the tongue and breath become foul, extreme languor and lassitude of limb, headache, with caprice of mind, supervene, where no improper diet or damp or bad air can be accused of producing the symptoms. The real cause will be found in the fact of *growth*. The efforts of the nerves, both animal and organic, to carry on this process, not of maintenance of only, but of addition to the body, and especially the efforts of the digestive nerves to supply the necessary material for growth, prove every now and then to be more than they can make without falling into a state of irritation; and such irritation is exhibited in the two nervous centres, the brain and stomach. That this is the explanation of such attacks I have proved a hundred times, by the simple process of giving total rest to the limbs and stomach for twenty-four or thirty-six hours, when the latter begins to recover appetite and digesting power, no other treatment being applied. The renewal of the powers of the nerves, however, will be expedited, and the distress of the symptoms will be mitigated, if a cold compress on the belly be maintained for two hours at a time, changing it every half-hour during that time: then omit it for two hours, and so on; the head and feet to be treated by cold cloths and foot-baths as above. It is wonderful how rapidly the patient recovers under this do-little plan; and why? because his nervous systems only want rest. How many a

child is tormented with physic when, if strict inquiry were made into the *causes*, it would be found that there was no possible one but weariness of the nerves! Everyone must have observed how irritable children are when those *jets*, with which growth is always effected, are being made, and during these they are often rebuked for caprices of temper for which they are not accountable.

Such is the easy and effectual treatment by which anyone whose digestive organs are acutely attacked may rid himself of the present trouble, without engendering future mischief, as is the case when stomach and liver are both irritated to another stage, the secreting stage, by old-fashioned blue pill and purgative draught. No one who has once procured relief by water appliances will ever have recourse to drugs, unless he falls into that stupid idleness of mind which pronounces the former more *troublesome* than the latter, heedless of the trouble into which he is driving the very centre of his life.

As more or less liver and stomach irritation is produced by every good—which means every bad—dinner which a man eats, it will be useful to him to know that if, before getting into bed after such excess, he will drink a couple of tumblers of cold water, and then put a wet compress on the stomach, he will awake with a much moister mouth and clearer head than he either expected or deserved. Should the heat of the compress

wake him in the course of the night, let him throw it off, and take the opportunity of drinking another tumbler of water. In this manner the vitality of his digestive organs will only suffer from the food, whilst, if he takes a pill, the nerves and membrane of the stomach and liver will suffer a double exhaustion after the double exertments which have been occasioned by the dinner and the drug.

If, not having taken these precautions at bedtime, the diner wakes with dry mouth and throat, throbbing head, &c., let him pack the whole bowels with a thick-folded and very wet cold towel, and refresh it out of cold water every twenty or thirty minutes for three or four times in succession, then sponge the head all over for two minutes, and finally sponge the body all over for three or four minutes in a sitz or shallow bath of cold water, and he will be more refreshed in his animal sensations, and less damaged in his nutritive organs, than if he swallowed on waking a bottle of soda water with ginger in it, or worse still, "a hair of the dog that bit him." It is the frequent repetition of this dinner, pill, and "hair," that some day brings on a bilious fever, or, failing that, gradually congests the liver, acidifies the stomach permanently, or makes an old age, which might have been postponed and sound, premature, bronchitic, paralytic, or calculous; and the remedies, in my belief, do as much towards this as the indigestions.

DRY COLIC.—FLATULENT BELLY-ACHE.

This is a pain of the belly which depends on a neuralgic state of the spinal nerves, which are distributed to the contents of that region. But this is almost invariably connected with disordered state of the womb, and will be referred to when speaking of the maladies of that organ. The dry belly-ache of the present heading, although the immediate result of nervous irritation of the bowels, is really produced by the excessive secretion of gases by the mucous membrane lining the bowels, and by the spasmodic contractions of the bowels upon the gases, so that it properly comes under the head of the disorders of the lining membranes. Both the nerves which regulate the secretions of the bowels, and those which regulate their muscular action, are in a state of great irritation so that even when a *small* quantity of gas more than usual is secreted, the muscular coat of the bowels is thrown into a state of spasmodic contraction upon it, and belly-ache without diarrhœa or vomiting, and hence called "dry," is the result. There is sometimes retching, but not vomiting of matters; and, inasmuch as a *small* quantity of gas suffices to rouse the irritable muscles of the bowels, there may be excessive pain without much distension of the abdomen.

The question is, whence comes the nervous

irritation which causes the secretion and contraction? Either from the upper part of the digestive canal, the stomach, or from the lowest part, the colon, where the excrement is secreted. When the *stomach* is the source of the irritation, it is because itself is distressed by certain indigestible matters; and these are chiefly new bread, undercooked and raw vegetables and fruits, nuts of different kinds, cheese, milk, acid wine. All these would seem to remain a very long time in the stomach unchanged, or very slightly changed, by its secretions, and so as to rouse the nerves of the small bowels lower down, whilst these, again, strive to relieve themselves by throwing their irritation on the lining membrane, which then secretes the gas. The stomach, in fact, is called upon to cook the food, as well as digest it, and it cannot do it. In the instance of milk, which always clots in the human stomach, much of the dry belly-ache of very young children is accounted for. Even woman's milk is sometimes too cheesy, and given to coagulate strongly in the child's stomach. Occasionally the same kind of disorder of stomach is produced by the process of digestion being suddenly arrested by a rapid walk or by a mental shock immediately after taking food of any kind: after five or six hours, dry colic and dry vomiting are liable to appear.

If the dry colic is derived from the lower bowel, the *colon*, it is usually after that bowel has been in a state of great activity of secretion.

When a profuse diarrhœa ceases, and the more if it ceases suddenly, the membrane of the colon, no longer pouring out liquid matters in excess, retains sufficient irritation to pour out gaseous matters in excess, upon which the colon contracts in a spasmodic manner. Sometimes, however, the irritation of the colon in diarrhœa is transferred to the small bowels which lie in the centre of the belly, and the gaseous secretion takes place there. This may be known by the ache being in that centre, rolling about and shooting back towards the loins, whereas, if it is in the colon, the pain rolls round the sides and across the upper part of the belly, and produces shootings into the thighs, and even cramps of the calves. Dry piles are also a cause of dry colic. From what precedes it will be plain how this should be. When the piles are relieved by their bleeding, the belly-ache ceases.

I have given attention to these causes and *rationale* of dry colic because they influence the treatment, and because it is desirable that laymen should have some idea of the process by which the pain is produced, in order to counteract the great alarm which is often produced when a patient is seen doubled up with pain, the face shrunk, &c. Acute as the pain is, it will be seen that it is not a serious affair.

If the *stomach* indigestion is the source of the pain, fomentations at 130° should at once be applied all over the belly, though a *double* quan-

tity of the hot flannels should be placed over the upper half of it. Change the flannels every five minutes for one or two hours, according to the pain. After this have the feet rubbed in water at 100° , with mustard in it, for a quarter of an hour, then place a cold compress over the upper half of the belly, change it every half hour for two hours if there is retching, but leave it unchanged for two hours if there is none. Should the pain continue, foment again after six hours, and at the end of the fomentation place a poultice over the pit of the stomach, above the navel, for an hour, composed of equal parts of linseed and mustard flour, and, on taking that off, apply the cold compress again. During all this time, sip a claret glass of the coldest water every twenty minutes or so. The result of this treatment will either be so to aid the stomach, by withdrawing irritation from it, that it can accomplish its digestion, or else such as to enable it to throw the irritating matter up. But should the pain of bowels diminish and the retching continue, a sitz bath at 60° should be taken for twenty to thirty minutes, and after it a poultice, made altogether of strong mustard, should be applied over the pit of the stomach for twenty to forty minutes, according to its action on the skin. The sitz may be repeated every six hours.

Not unfrequently very hot *dry* flannels afford relief in this kind of colic, and they can be tried alternately with the moist heat of the fomenta-

tions, with an interval of two hours between them. Dry circular friction of the bowels also relieves in a palliative manner. But the great aim is to relieve the stomach, and the signal of that is, besides the cessation of bowel pain, the cessation of retching and the *free* emission of gas from the stomach. This kind of colic seldom ends in diarrhœa; but occasionally wind either travels down to the colon, or is secreted there instead of the small intestines, and relief comes from a large evolution of gases from the lowest gut. The cold sitting bath tends to effect this relief.

When the *colon* is the source of the colic, the treatment will consist of alternate hot, dry fomentations, and the sitz bath. Very hot dry flannels should be applied to the belly for two hours, changing them every five minutes. An hour or so after this, take a sitz bath, at 60° , for twenty minutes; dry fomentation again two hours after the sitz bath. If, after two trials of the sitz bath and fomentations, much pain still remains, give an injection into the bowels of a pint of cold water. And if upon that there is only slight mitigation of pain, employ the hot moist fomentations as in the previous case, and follow it, if necessary, with a mustard poultice on the bowels. But these last will scarcely be needed; passage of gas downwards, or some free faecal secretion, will prevent the necessity.

If dry and painful *piles* cause the colic (and it is not a frequent cause), take a sitz bath at 70°

for half an hour, and immediately afterwards foment the orifice of the lowest bowel and the belly at the same time with water at 120° for three quarters of an hour. Repeat the sitz bath in six hours, and the fomentation at bedtime. In the intervals, apply a cold-water compress over the piles, or over the orifice of the bowel, changing it every hour or so. A cold compress on the lowest back, over the erupper bone, will tend to soothe the piles, especially if they cause pain in that region, as they often do. If there be no fever of mouth or pulse, it would be well, so soon as the very acute pain has lessened, to sweat with a lamp for a quarter of an hour, with a shallow bath at 60° after it, walking for a while after it.

Nothing need be said about articles of *diet* in colic of this kind. Except the small and frequent doses of cold water indicated, nothing is necessary; the pain is generally passed in twenty-four or thirty hours, and abstinence for that term will do less harm than the labour of the stomach in digestion would.

DIARRHŒA.

Although purging of the bowels always indicates disorder of the lining membrane of the lower bowel, the colon, that disorder may either be of an inflammatory, and therefore of a feverish

character, or it may be the result of nervous irritation of the belly thrown upon the membrane, and finding relief by its secretions. A sudden and severe mental shock may induce immediate and profuse diarrhœa, which will pass away when the brain recovers from the shock; whilst sorrow and persistent anxiety are a fertile cause of chronic diarrhœa. With this latter malady I have nothing to do in this place. But as regards purging from sudden nervous shocks, it may be known from the inflammatory and dyspeptic kind by the small amount of griping which precedes and accompanies it, by its very sudden advent, by its very liquid consistence and bright yellow colour, by the absence of previous stomach derangement, and by the much more rapid shrinking of the face, than in the inflammatory or dyspeptic purging.

Mental agitations are not, however, the only causes which operate on the nerves to produce this kind of diarrhœa. It is the result of some epidemic and poisonous states of the air, as in the beginning of Asiatic cholera, and of the worst kind of typhus fever; in both of these, watery and painless purging, accompanied with sudden prostration of strength and shrinking of the skin, is the first symptom; and it is on this account that it is a symptom to be dealt with at once, and not to be neglected because there is no sickness and little pain. Every one knows how many persons walked about with this painless diarrhœa for three or four days before being struck down with

cholera. and knotted with cramps, at the time when Asiatic cholera was epidemic in this country. And when, from a review of the previous history of the patient, there is reason to believe that the diarrhœa is the first signal of low fever, the necessity of attending to it as soon as possible is flagrant enough.

Nervous diarrhœa is also produced by certain states of the womb, of which I shall have to speak when treating of the maladies of that organ.

When, therefore, a person is suddenly purged in the manner above-mentioned, it is, first and foremost, essential that he should directly cease from all locomotion and take to his sofa or bed: for it is when the spinal nerves of the bowels are involved in the irritation, that cramps of legs and stomach-ache are added; and locomotion implies exertion of the spine. He should then apply cold wet towels to the belly, and change them every half hour for five or six times in succession. Immediately after this apply dry very hot flannels to the belly for an hour or more; and after that a foot bath of water at 100° with mustard in it, rubbing the feet well in it for ten to fifteen minutes. If the looseness still continues take a sitz bath, cold, for five minutes, and apply the dry hot flannels again immediately after it, and repeat the sitz and flannels every three, four, or five hours, according to the pressure of the symptoms. A foot bath as above, every three hours, will also be useful. If there be any notable amount of

pain of bowels, the hot fomentations may be applied moist, that is, with flannels wrung out of water at 130°, for half to one hour according to the amount of pain, instead of the dry fomentations; doing all the rest as above. In the diarrhœa issuing in low fever, an injection of half a pint of ice-cold water, repeated every three hours, has been found to stay the discharge, in conjunction with these measures.

The *diet* must be regulated by the causes. In cases of diarrhœa from mental causes, well-done lean animal food may be taken once daily, if there is appetite for it; but all vegetable matter, except bread and rice, had better be avoided, and liquids are injurious; tea, with abundant cream or milk, for beverage at other meals than dinner; a wine glass of dry sherry in two wine glasses of cold water, may be taken at dinner. When, without a mental cause, there is reason to think that the looseness is the first sign of a coming fever of a bad type, it is safer to confine the diet to a claret glass of weak veal or beef tea, thickened with arrowroot or tapioca, every three hours or so. If this seems to cause much flatulence, it must be taken only twice in the day, and water-boiled rice given twice in the day also. Lemonade, with very little sugar in it, is found to agree in this diarrhœa; but tea, coffee, cocoa, disagree.

I may repeat that all remedies and diet are useless in this form of acute diarrhœa, unless absolute rest of body is observed.

Diarrhœa, which is the result of irritation higher up the digestive canal, that is, in the stomach or liver, is, strictly speaking, a mode of relief to that irritation, and in that view might be left to itself. But Nature occasionally does her work roughly, painfully, or beyond what is needed for relief; and Art is intended to regulate the excesses in these directions.

Something must be said on the treatment of this complaint, therefore. And something must be said of the manner in which it is produced, and of some erroneous ideas regarding it.

When from the irritating application to the stomach and liver of such articles as fat, oil, butter, peppery condiments, fried meats, pastry, raw vegetables or fruits, spirits, especially in the form of punch, strong wines, such as port wine, or half-fermented liquids, such as beer and porter, a disorder has been set up in those organs which would induce gastric or bilious fever if it accumulated or smouldered there: Nature, to relieve it, either causes vomiting or purging, or both. In the case of purging there is a transfer of secreting activity from the membrane which lines the stomach and tubes of the liver, to the membrane which lines the colon, and this last relieves itself of the irritation thus transferred to it by forcing out excessive quantities of mucus, of its special secretion called *feces*, and of gases. These secretions are variously coloured, from light yellow to black: occasionally they are colourless. But what-

ever the shade of colour may be, do not suppose that it is due to the *bile*; there is no bile in the *faeces* whether they be white, black, or any intervening colour. There is *colouring matter*, but no *bile*. This is the error which still besets people when they take calomel or blue pill to render the *faeces* more coloured when they are white, and less coloured when they are black; they imagine that it is by driving healthier bile down from the liver to the lower bowel—a process which never takes place. I do not deny that the colour of the *faeces* does alter under the operation of mercurials, by virtue of the action of that drug upon the nerves which regulate the secretions of the lower bowel; but, besides that it does not so by sending different bile to the bowel, I assert that the same result can be gained by other and less irritating measures—measures which soothe the membrane, and give tone to the nerves of the implicated bowel. Therefore, I would warn the patient not to heed learned statements, nor to make them, concerning the want of bile or the excess of bile in the *faeces*, but simply to observe the colour and consistency. When they are very *dark*, it is partly because they have been *so long* secreted at the “blind head,” as it is called, or commencement of the colon, and have been subjected to the action of sulphuretted gas; partly because much carbonaceous matter is being thrown off, the food having been of a highly carbonized character, such as fat and oily things; and occasionally it is

due to the mixture of blood, which blackens by retention among the gases of the bowel. When they are *light*, it is because they are very rapidly and sparingly secreted, not only at the "blind head," but over the whole surface of the canal, the quantity of mere mucus exceeding that of fæces in which the colouring matter resides; so that having only a short time to remain among the gases of the bowels, and being actually deficient in real fæces, they are expelled with much less colouring matter in them. And it is to be observed that when fæces are dark at the commencement of diarrhœa, they become lighter as it proceeds, they being then more rapidly secreted, and the carbonaceous matter being exhausted. In Asiatic cholera, where the purging is simply thin mucus, the excretions are colourless and are secreted with enormous rapidity; the carbonaceous matter being retained in the blood, which becomes thick and pitch-like.

Another error regarding diarrhœa is that it is food passing away. It is quite true that occasionally food does pass by the bowels without having undergone the necessary digestive change in the stomach; but in this case the stomach is the organ chiefly in fault, and although the diarrhœa may be in fact due to the presence of food in the lower bowel (where it has no business to be, and upon which it acts like a foreign, irritating body), yet, as diarrhœa constantly occurs without any sign of food in the lower bowel, its presence there can

only be looked upon as an incidental and not an essential condition of the malady. Certain coverings of seeds, which, being intended for transmission by fæces of birds and brutes, are indigestible by any stomach whatever, and the fibres of leaves, always descend into the colon unchanged, and occasionally are a cause of diarrhœa, but do not constitute it. Hence the prudence of avoiding nuts, and taking care to break the outer skin of, and chew well, raisins and similar fruits; the skin of the pulp, as well as that of the seed within, being untouchable by the stomach. If very many of such things have been swallowed, as often happens in children, it adds somewhat to the treatment, as will be explained.

Upon the whole, therefore, mucous and dyspeptic diarrhœa may be regarded as the result of a transfer of irritation from the upper to the lowest organs of digestion, with the purpose of relieving the nobler organs. It is, therefore, an irritation and sub-acute inflammation of the lining of the colon which is to be treated.

The whole surface of the bowels should be fomented with water at 120° for one hour; and this should be repeated in six or eight hours if the looseness does not abate, or if the pain continues the same, even though the discharge does abate. The fomentation may be practised as often as three times in the day, but not oftener, as it is apt to cause reaction in the bowels and renew their secreting activity. It is intended to subdue irrita-

tion; but the other aim, the giving of tone to the nerves of the belly, must also be kept in view; and therefore, in the intervals between the fomentations, a cold sitz bath—the colder the better—should be taken for three to five minutes, sufficient to stimulate, but not to procure reaction. This sitz bath may be taken four or five times in the day if the diarrhœa is profuse, and whether there be pain or not. If, from the extreme weakness of the patient, or because it is a very young child, it is impracticable to administer a sitz bath, cold fomentations of the belly should be used for an hour at a time, changing the towel every quarter of an hour. This may be repeated one hour out of every four, according to the urgency of the symptoms; but one hour should be allowed to elapse after the hot fomentation before applying the cold. Between all the processes apply a thick dry flannel over the bowels, to keep plenty of blood on the surface, and perhaps to cause perspiration there.

Sometimes, notwithstanding the diarrhœa, the stomach gives signs of feverish irritation, and the mouth is dry, the tongue foul and parched, and nausea is present, with shiverings. In such case the whole trunk, from under the arms to below the hips, should be packed in cold wet towels from thirty to forty-five minutes, rubbing the skin that has been packed with damp towels. Then may follow the fomentation with hot water immediately. An hour after that a cold sitz for three

to five minutes. Then place a thick dry flannel all over the bowels as above, and wait for three or four hours, when, if the feverish signs in the mouth still continue, repeat the three processes just mentioned. But as soon as the mouth shows less fever omit the pack, foment twice a day, and take the cold sitz every three hours or so. In any case have a care to keep the feet warm, both by foot baths of hot water at 100° with mustard, for ten or twelve minutes every four or five hours, and by dry heat applied to them in the intervals. Although an effect of the irritation of the bowels, cold feet, by the misery they bring to the nerves, react strongly to maintain that irritation.

If there be great nausea or actual vomiting, apply cold fomentation to the upper stomach for two hours, changing the towel every quarter of an hour. Then apply a mustard poultice, two-thirds mustard and one-third linseed, over the pit of the stomach. Wait two hours, and then, if the nausea or vomiting still continue, take a cold sitz for a quarter of an hour, and foment with hot water for three quarters of an hour immediately after it. As soon as this disagreeable symptom is mitigated, go back to the treatment of fomentations and short cold sitz baths already recommended. These implications of the stomach show a very intense and extensive irritation; for, spite of the diarrhoea, it would appear that it cannot be all carried off from the upper organs of digestion. Hence it is necessary to deal in this manner with the stomach,

when sitz baths of a quarter of an hour are not the best for the diarrhœa. The stomach must be quieted, both because it is a highly sympathetic organ, and because the diarrhœa has no chance of diminishing until it is quieted.

In cases where there is reason to suspect that the looseness is owing to the presence of indigestible matters, such as skins of seeds, &c., one of the first measures should be the administration of an injection of half a pint or a pint of thin gruel and a table-spoonful of olive oil. This may be repeated in eight or ten hours, if the other measures designated do not succeed, substituting a pretty strong infusion of chamomile for the gruel.

The *diet* in dyspeptic diarrhœa must be confined to minute quantities of farinaceous liquids, especially *raw* water arrowroot, *boiled* arrowroot tending rather to increase action of the bowels. Thick rice-water is familiar to every one as an article of diet in purging, and may be taken. But as the malady is the result, if not the accompaniment, of indigestion, the less the stomach has to do the better. A frequent claret glass of ice-cold water is generally sufficient, efficient, and the most agreeable to the patient. In no case attempt to *feed* the patient. And brandy and hot condiments are not to be thought of; they *never* cure, although people have, like sheep following each other, taken them for two hundred years. When Asiatic cholera last visited Britain, the price of brandy

advanced nearly one-half, such was the rush to obtain it as a preventive and curative; yet there is not a single case recorded of its having been effectual in either character.

As the diarrhœa diminishes, omit first the fomentations, and then increase the intervals between the cold sitz baths. Increase also the strength of the diet from liquid farina to liquid meat. But all this should be done very gradually, for diarrhœa is a complaint which is easily provoked to return, especially if the dyspepsia which originated it is relighted by too early administration of too strong food. The patient should also beware of using his limbs too soon.

Persons in whom diarrhœa is readily excited may do much to diminish their tendency to it by the daily use of a cold sitz bath for ten to fifteen minutes, either at noon or at bed-time; it is taken with much comfort at the latter time in the summer weather. They will further lessen the tendency in question by sweating with the lamp once in ten days or so, with a cold shallow bath for two minutes, and a walk after it. This last process keeps the liver free from congestive irritation, whilst the sitz daily and steadily adds to the strength of the nerves and membranes of the bowels. It is understood that they avoid, at the same time, fatty things, hot and spiced things, pastry, raw vegetables, and alcohol, save in the shape of some very dry wine when social exigencies demand it. Lean animal food is proper;

soups and fish not so. Men with tendency to diarrhœa who smoke tobacco must not expect to be benefited by any measures, so long as they persist in that dirty habit. Excessive exercise on foot or horseback is bad. Silk under-clothing is preferable to woollen or cotton; it protects more effectually from the electric disturbances of the atmosphere. Silk stockings are better than cotton, and cotton better than woollen, for keeping the feet warm; but in this tendency the feet should be rubbed with a cold wet towel for three or four minutes, and then with a dry one, every day on rising.

CATARRH OF THE BLADDER.

Men who, in the vernacular, are said "to live well," that is, who, by daily and strong stimulation of the body by animal food and alcoholic liquids, keep their nervous system in the highest state of excitability short of disease, are those who most commonly are the subjects of this painful and dangerous malady. It is more usually seen in men past fifty than under fifty; so that age tells against them, as well as previous habits. Such men will come out of a hot room into the cold winter air; or will stand in a windy passage; or will fish in a river with the water above their knees; or lie for hours on their stomach on a Scotch hillside, waiting for the wretched deer; or

will sit on cold earth or stone after the heat and fatigue of six or eight hours' shooting in August;—and in the course of the following night they will be seized with cold shivering, and frequent yet difficult passage of urine. As the mischief augments, dull pain in front over the region of the bladder is experienced, varied by occasional sharp darts towards the neck of the bladder and along the urethra, occasionally also upwards towards the kidneys. There is tenderness on pressure all over the neighbourhood of the bladder, and weighty pains in the inside of the thighs. The frequency and the pain and straining of the passage of urine increases until it is almost intolerable, and alarming to those around. General fever sets in, but not for eighteen or twenty-four hours. About the same time the urine becomes loaded with mucus, and has a strong ammoniacal odour, passing rapidly into the putrescent.

The sooner this state is treated the better, for it may involve the whole abdomen and peril life in the course of three days. The usual practice is to take a hot hip bath—at least, has been since hydrotherapeutics made people think of baths. But, whilst the water is being made to boil, it would be well to pack the whole region of the loins, bladder, between the thighs, and the thighs themselves, with cold wet towels for five or six hours in succession, changing the towels every half-hour or hour, according to the rapidity with which they heat. After the last one take a sitz

bath at 100° for twenty minutes, and whilst in that bath have the feet rubbed in water at 100°, with a table-spoonful or two of mustard in it. Get to bed and put a cold water compress on the lower stomach and between the legs, renewing it every two hours. After eight hours pack the lower trunk again, regulating the number of packs by the heat of the towels as they are taken off. Take the sitz bath as before. Two such applications will generally subdue a catarrh of the bladder that has been speedily attended to. The temperature of the sitz bath should be gradually diminished as the pain and frequency of the urine decline—five degrees at each employment of it. And after all necessity for the packing has disappeared, the sitz should still be continued twice or thrice a day, until it is reduced to 65°, at which temperature it will prove tonic to the exhausted vitality of the bladder.

If, from the peculiarly sensitive temperament of the patient, or in consequence of the malady not having been treated sufficiently early, general fever has set in, the packing should be in the wet sheet all over the body; but the region of the loins and bladder should be, *in addition*, packed in wet towels. It is probable that the general fever will be subdued by the first set of packings, and that the local packings will, therefore, suffice afterwards.

During the period of pain and frequency of urine, it is not desirable to take other food

than rice water, barley water, or cold water. All liquids taken should be cold, and they should be drank copiously; the less the urine the greater the pain in passing it: and cold liquids act on the kidneys more than warm.

If the sitz at 65° is continued after all distress has ceased for two or three weeks, the complaint will be less liable to relapse or to become chronic; which last event is frequent when the patient returns too quickly to his exercise and his habits of eating, and does nothing to strengthen the bladder region after the rough attack.

INFLAMED PILES.

Hæmorrhoids, or Piles, are for the most part a chronic disease, the *rationale* and treatment of which in that character I have given in my work, "The Water Cure in Chronic Disease." But they are apt, when the upper organs of digestion, the stomach and liver, are irritated by improper diet, or when these organs are interfered with by mental troubles proceeding from the brain, to take on an active state of disorder, and to become exceedingly painful locally, and generally distressing; and this, whether they be externally prominent, or internal, or "blind," as they are termed. Constipation, the retention of hardened fæces in the lower bowels, is also an

occasional, but the least frequent cause of this acute disorder. Again, if the piles have been in the habit of bleeding at certain fixed periods, and fail to do so, they swell and inflame, involving much of the surrounding parts, and producing giddiness and other morbid sensations in the head.

If there is bilious and dyspeptic disorder present (for the signs of which see that heading), pack from the lower edge of the ribs to the knees in cold wet towels, with a double fold of these on the lowest back, for three quarters to one hour, and sponge in a sitz bath at 70° after it. Apply a cold compress to the lowest back in such a manner that it shall cover the orifice of the bowel likewise, and refresh this every hour or two. The general packing must be repeated in the day, if there is general fever and distress to warrant it. The local packing should be continued for six hours at a time: at the end of which foment the piles or orifice of the bowel with water at 110° for one hour, taking care not to exceed that temperature; soothing, and not stimulation, being the aim. After the fomentation with water, a sort of fomentation with a poultice made of linseed meal may be continued, applying it as closely to the orifice as may be, and leaving it there for three hours or so. Then renew the cold local packing, unless, as I said, there be much general fever and distress, in which case repeat the general before the local

packing; a compress on the upper stomach to be constantly applied and wetted every two or three hours. If there is reason to suspect faecal accumulation in the lower bowel (which may be judged by the hard and difficult character of the last discharge, two, three, or more days before), an enema made of half a pint of warm milk, half a pint of warm water, and a table-spoon of honey, or two table-spoons of olive oil, should be employed, and repeated in four hours if the evacuation is difficult, scanty, or hard; otherwise leave the bowel free from the mechanical irritation of an enema as much as possible. The repetition of the packing, hot fomentation, and poultice, is sure to reduce the pain and inflammation in the course of three days. It is understood that the recumbent posture should be kept as much as possible. A tumbler of cold water to be drank every two or three hours, especially if there is much general feverishness. The diet to be entirely vegetable—bread, farinaceous articles, cooked fruit, &c. Avoid honey, which, it may be mentioned, sometimes causes inflammation of hæmorrhoids by disordering the stomach.

Should the disorder be connected with mental troubles, as not unfrequently is the case, the fomentation of the upper stomach should be omitted: for hot fomentations sometimes cause feeling of depression; a sitz bath at 70° for a quarter hour should be used instead of the cold

local packing; a foot bath at 70° with mustard, for ten minutes, should be taken twice a day; and the rest of the treatment as above should be pursued.

Should the disorder be caused by the retention of blood in the piles at the time usual for its discharge, all the first-named treatment may be followed, except the fomentation of the upper stomach and the cold fomentation of the lowest back. But a cold sitz bath for twenty minutes should be taken twice in the day, and an enema of a quart of water at 96° employed twice a day, if the head is suffering much. For a like reason in the head, a foot bath of cold water and mustard for five minutes should be used once or twice a day. The long sitz baths and the injections of warm water tend to bring on the bleeding, whilst the foot baths tend to relieve the head. As there is seldom any great degree of feverishness in this form of hæmorrhoidal irritation, general packing is not often required; and, as the aim is to provoke the piles to bleed, the patient may walk after the sitz and foot baths: and this will diminish the congestion which takes place in the head in consequence of retention of blood in the lower bowel.

The acute disorder of the piles being past, my strong advice is that their chronic stage should be treated with a view to their abolition, or to such a reduction of them as shall prevent the serious interference which they are able to exercise with the brain and other important organs.

DISEASES OF THE COVERING MEMBRANES.

RHEUMATISM.—RHEUMATIC FEVER.

IN my work on Chronic Disease I insist upon the fact that Rheumatism is always connected with some phase of irritation in the digestive organs, and notably in the liver; and I said that men do not get rheumatism from cold and damp unless such irritation is present. The years that have passed since I stated that fact have confirmed my belief in it. The feverish results of cold and damp may be exhibited on any of the mucous surfaces, as the first division of this chapter has shown. But if the liver and stomach are already in a state of mucous disease, the far greater probability is that the same causes will throw themselves on some of the covering membranes. In explanation of this, I apprehend that some such process as the following takes place. By virtue of that acute sympathy between the mucous membrane and the skin, to which allusion has been already made, the disorder of the former interferes so much with the vitality of the latter, as to render it unable to resist by strong reaction the shocks which external agents, such as cold and damp, make upon it. Instead of reacting, the bloodvessels of the skin, contracting under

the influence of the cold, drive their blood inwards upon the nearest covering membranes, namely, the sheaths in which the muscles under the skin run, and the fibrous tissues which surround and bind the joints. And this process is the more likely to take place if the patient has been in the habit of exercising his muscles excessively, on the principle that every over-used organ is more liable to sink under an attack of morbid causes.

So much for the predisposing and exciting causes of rheumatism. The essential of that state is an inflammation of the sheaths of the muscles, and of the ligaments which surround and hold the joints. Of course there are various degrees of this, from the simple stiffness of the shoulder or wrist, with little or no appreciable fever, to the fierce inflammation which involves every joint and muscle of the body, and is accompanied with one of the most raging febrile conditions of which the body is capable. I therefore speak of Rheumatism and Rheumatic Fever, although the same kind of essential condition applies to both.

When one or two joints of the limbs are the seat of rheumatic pain and stiffness, it will very often suffice to rub the whole body with a wet sheet on rising and at noon, drinking two tumblers of water and walking after them, unless the pain be in the knees or ankles. At bed-time foment the upper stomach with water at 120° for three

quarters of an hour, and wear a compress on the stomach day and night. A cold wet compress should also be applied over the pained joints constantly, changing it every three or four hours. Whenever this compress is refreshed, the joint should be rubbed lightly and quickly with a cold wet towel for three minutes or so. The diet should be unstimulating, such as white meat, stale bread, potatoes and other boiled vegetables, farinaceous articles, weak tea or cocoa—no butter or other oily thing; take a little honey or treacle, or cooked fruit with bread, instead of butter. No alcoholic drinks whatever. These measures will, for the most part, suffice to disperse the pains, especially if the patient has not been frequently subject to them. But should they persist after three days of this treatment, it will be necessary to pack the whole body in a wet sheet for one hour before the dripping sheet on rising, and to sweat with the lamp for ten minutes at noon; taking a cold shallow bath for one minute after it, using much dry friction after it. The fomentation and compresses as before. Two days of this treatment will be pretty certain to release the joints from pain. But when all pain has disappeared, it would be well to rub the affected joints with the wet, and then with the dry towels, morning and night, for two minutes each joint: but not to wear the compress on it.

In case of rheumatism setting in with all the

phenomena of a feverish attack—shiverings, colds and heats, &c.—with widespread pains over the loins, hips, shoulders, knees, &c., rendering the body almost immovable in the course of three or four days, it is needless to say that the most assiduous treatment, both local and general, is required. And it is better to commence with it at once, taking it for granted, from the shiverings and heats, that the malady is going to be severe. Begin, therefore, by packing the whole body in a wet sheet, and, after the body is quite warm in it, let it remain for ten minutes. Sponge all over with water at 70° , or rub well with dripping towels, if the body will tolerate friction. As in all strong fever, the packing may be renewed every half hour for three or four times in succession before the sponging or rubbing, if the rapidity of warming is great. Immediately after the packing, apply compresses of cold water over all the affected joints, and refresh them every three hours. Apply also a cold compress on the upper stomach, and refresh it every two hours. Three hours after the packing, foment the upper half of the stomach for one hour with water at 120° . The packing to be renewed after six or eight hours, according to the renewal of the fever. If the body is so tender as to prevent all movement on the part of the patient, the packing must be effected by means of wet towels laid all over the frame. If these cannot be placed on the back, for the above reason, they should

be laid *double* all over the front and on the limbs. This programme of treatment should be continued until the feverish signs diminish; the soothing effect of the packings and compresses on the external surface, and of the fomentations on the internal irritation, doing all that is necessary to prevent the head from being implicated, and placing Nature in the best position to relieve herself of both internal and external trouble. This she does, after repeated series of packings and fomentations, by throwing out perspiration from the skin, or by means of large quantities of urine, mostly loaded with salts and mucus.

The *diet* must consist of weak tea with bread soaked in it, apple tea or lemonade with little sugar in them, and *large quantities* of cold water. It is not until the fever has considerably diminished, and the watery and warm perspirations or copious urine announces that relief is on the way, that it will be proper to add to the diet a tea-soup of veal or chicken broth, with bread in it, twice a day: and so very gradually improve the diet as the fever goes, and only stiffness of limbs remains. At this point, likewise, cease all packing, except once in the morning in a sheet for three quarters to one hour: and fomentation also, unless there be nausea and dry mouth and throat. But, besides the *cold* sponging or rubbing after the packing, another rubbing with wet towels should be practised in the course of the day. The stomach compress to be continued

and often changed: and the same with the joint compresses. As the joints can bear it they should be gently rubbed with the hand, wetted constantly with cold water, for three or four minutes to each joint, once a day at least: replacing the compress after it.

The reason for continuing some of the treatment even after the worst signs have disappeared is, that relapses into rheumatism are very frequent: less so, it is true, after external than after internal treatment: but still it is a possible event, and it is well to guard against it in this manner, the rather as the measures just indicated tend at once to strengthen the limbs, to fortify the skin against external provocations, and to keep the irritation of liver and stomach down. In this manner, too, the passage into chronic rheumatism is prevented.

The state of the bowels must be regulated by injections, which may be made of chamomile tea and castor oil (a pint to a table-spoon) if they are obstinate and hard, or of milk and water and honey if they are more easy. Relief once every other day is quite sufficient, unless the patient be very full-blooded, when the bowels should be thus eased every day.

In many cases of acute rheumatism the body is, almost from the beginning, covered with a greasy glutinous kind of sweat, becoming every now and then watery. The presence of this need not prevent any of the packings or other external

remedies above-named from being applied. It constitutes a greater reason for their being all used cold; for it shows extreme weakness of the nerves of the skin. When the sweats by which Nature relieves herself arrive, the difference between the skin at that time and in the state here alluded to will easily be detected.

The duration of acute and feverish rheumatism under this treatment rarely exceeds ten days; whereas three and four weeks is a very common time under the *regime* of mercurials, opiates, sudorifics, and purgatives. The great fear in rheumatic fever is a transfer or extension of the inflammation of the fibrous tissues of the limbs to the cognate tissues of the brain and heart. Whilst all kinds of medicinal irritations are set up in the internal organs, and the operations of Nature towards the surface thereby interfered with, there is always ground to dread this eventuality; but hydrotherapeutic treatment effectually protects the patient from it, and aids Nature to send her irritations where they will be harmless and curative, because they can find vent in excretions. I make this statement emphatically, because not a few medical men announce that a cold sheet in rheumatic fever produces this very result on the brain and heart, without having once tried it or seen it tried by others; in profound ignorance of the whole matter, in fact, and only therein sharing the opinions and prejudices on this subject of every Mrs. Gamp and every

twaddling old woman in the kingdom. I have tried their measures for many a year, and have right to speak of them: let them try mine before they pronounce upon them.

NEURALGIC RHEUMATISM.

This is more frequently seen in its chronic than in its acute form. It consists in an inflammation of the fibrous coverings of the nerves *added* to that of the fibrous coverings of the muscles, and is often an extension of the latter towards the close of its acute career. This is especially the fact as regards the male sex. But in women the rheumatism of the nerves is much more frequently conjoined with that of the muscles in its acute attack, and thus constitutes neuralgic rheumatism. It is known partly by the presence of pain at all times, whether there be movement or not, by there being less swelling of the joints, by there being less fever but even more sense of restlessness, and by its greater variableness with night, morning, noon, or any external agents in the atmosphere. Causes also point it out. Bad diet is the most predisposing cause of muscular rheumatism; sympathetic irritation of the womb on the digestives, and of the brain on the digestives (as in mental distress) is the more common predisponent to neuralgic rheumatism. It is the kind of rheumatism most frequently

met with in women; in fact, the purely muscular is very rare in that sex. Irregularity, especially retention, of the monthly discharges, very commonly brings on neuralgic rheumatism by another process, viz., by disordering the spinal nervous system, whose influence over the nerves which it sends to the skin as well as to the muscles is thus deranged; and, as a consequence, these nerves are the more liable to vicissitudes of weather. Hence it is a frequent attendant of that state which is called "change of life," when the monthly illness is gradually ceasing. It is more difficult to get rid of altogether than the purely muscular, more or less of it lingering and being felt on the smallest change of weather, the smallest worry of mind, and the smallest deviation from the usual action of the arms, legs, or trunk. In this manner acute attacks of it are usually outbreaks from the smouldering ashes of the chronic malady; patients seldom having the patience or time to be cured of the latter—a process which requires both of those articles.

When sudden change of weather, or unusual exertion of the limbs, or some mental shock, brings on an acute attack of pain, recourse must be had to packing with towels or sheet, according to the amount of *fever*, not of *pain*, attending. As I said, the disease does not usually require or bear so much of this process as the purely muscular rheumatism; therefore it often happens

that towel packing, one back and front of the trunk, and a third folded over the belly, suffices, but will probably require to be repeated twice in the day, for an hour each time, with a sponging of cold water or a rubbing with wet towels after it; both of them brief in duration. After each packing and sponging, if there are any joints more especially painful, they should be fomented for an hour with water at 130° , changing the flannels every five or eight minutes. After the fomentations compress all the afflicted joints with cold water, but do not change the compress oftener than every four hours; too frequent reaction is not desirable when the sheaths of the nerves as well as of the muscles are inflamed. This hot fomentation may be repeated every four hours if the pains are considerable. Whenever the compresses are refreshed, a very gentle friction of the joints or surface pained with the open hand for fifteen to twenty minutes, is generally grateful to the patient; it should be so light as to act rather by magnetizing the part than by any mechanical operation. Compress over the upper stomach should be applied for four hours at a time; then omitted for four hours, unless there be great fever of mouth and throat, in which case wear it constantly and change it every three hours or so. If retention or sudden diminution of the menses be evidently the predisposing or exciting cause (for it may act as either) of the attack, fomentations at 120° should

be employed to the lowest stomach for an hour, two or three times a day; or, if the state of the limbs allows of it, a sitz bath at 96° for twenty minutes may be taken instead. The amount of packing must be regulated by the amount of feverishness, and the amount and temperature of the fomentations by the sensations which they produce; for in neuralgic conditions the smallest shade of change renders a temperature intolerable which the day before had brought relief. Generally speaking, if there be a feeling of *numbness* as well as acute pain, the highest temperature is the most needed, and may go even to 140° ; in cases of the acute attack coming in the midst of the chronic state of the malady, a high temperature is also most applicable. But in all cases, as the pain lessens, so must the temperature and frequency of the fomentations. And, when only stiffness and weakness remain, frictions of the joints with the hand in cold water should be substituted for half an hour or more, according to number of parts implicated, twice a day. The compresses should be continued, after all pain has left the joints, for several weeks; and any relaxing effect they might have should be counteracted by the cold frictions above mentioned, and by douching the joints with jugs of cold water once a day for two or three minutes.

In neither acute muscular nor acute neuralgic rheumatism is sweating with the lamp applicable; but in both, when all fever has ceased and only

stiffness of the limbs remains, two or three lamp sweats, at intervals of two days, will aid the return of movement in the affected parts. It should be administered very slowly, and should be followed by a shallow bath at 60° or 70°, according to the patient's locomotive power or the fullness of the body after the attack. The feverishness should have ceased three full days at least before employing this process.

Although TIC-DOULOUREUX and NERVOUS HEAD-ACHE are, in fact, inflammations of the covering membranes of the nerves and of the scalp, and thus come under the head of maladies of those membranes; yet, as they constantly rage without the attendance of feverish excitement, it will be more uniform to place them under the category of diseases having a nervous character; and they will be found there.

Of BRAIN FEVER and ACUTE INFLAMMATION of the SPINAL CORD, the first being essentially inflammation of the covering membranes of the spine, and the second of the investing membranes of the spine, I shall not make further mention in a work of this kind. They are diseases so serious in their character and so versatile in the symptoms

which afford the indications of treatment, that no plan of treatment, however effectual, should be attempted without personal medical inspection.

I pass, therefore, from the diseases of the covering membranes, which have a *fibrous* texture, to those of that important covering membrane, the skin, of whose *mucous* character and continuation I have before spoken (page 22), recommending the reader to peruse again the observations there offered. The maladies of this membrane which properly enter into such a work as this are, fever without eruption, and fevers with eruption, viz., chicken pox, measles, scarlet fever, small pox, crysipelas, boils, acute nettle-rash.

FEVER WITHOUT ERUPTION.

The late Dr. John Fletcher used to maintain that Fever was a skin disease; and certainly the morbid condition of that membrane is the one invariable symptom of all feverish states, whether it be dry and burning hot as in ordinary inflammatory fever and ordinary typhus fever, or partially cold and partially perspiring as in versatile and typhoid fevers. It is certain that the skin is the organ towards which the efforts of the internal oppressed organs for relief constantly tend, and it is therefore reasonable to seek in it a surface for the application of remedies whose tendency is to draw irritation from the interior

to the exterior, and thus to aid the efforts in question. In fact, fever is nothing more than a succession or a continuous train of such efforts, and the whole of the symptoms of tumult in the pulse, the nervous functions, the secreting functions, is due to such efforts. If the vitality of the body as represented by the quantity and rich quality of its blood, and by the strength and quietude of its nervous system at the time of the attack, is great, the fever will be of the *sthenic* or *inflammatory* kind, wherein the pulse is large, hard, quick, the face puffed and red, the mouth clammy, the tongue much loaded with brown or white fur, the skin fiercely hot, dry but soft to feel, the bowels and kidneys deficient in their secretions, with the urine often loaded with pink salts, the head often but not invariably aching, restlessness, sleeplessness.

If the vitality is defective, if the nervous system has been worn down by intellectual, moral, or locomotive excesses and distresses; if as a consequence of this the blood-making has been for some time previously defective, and the quality of the blood deteriorated, the exciting causes being applied, fever will appear of the *versatile* or of the *typhoid* kind wherein there will be small, hard, and quick pulse, face sometimes flushed and puffed, at others shrunk and earthy; mouth sometimes moist, at others dry; tongue milky white with red pimples interspersed, or clean and fiery red, or brown and very moist:

skin hot in the trunk and cold in the extremities, but often becoming hot all over for a time, and bursting into perspiration, sometimes warm, at others cold; urine varying in quantity, but more free than in the inflammatory form, darkish with a tinge of green in it, or loaded with white or yellow salts; bowels generally torpid, but becoming loose every now and then in a very capricious manner; dull headache with somnolence, restlessness, apathy, all appearing in the course of each twenty-four hours.

If the patient be attacked by the exciting causes, when both in nerves and blood he is in a still lower condition, or if the poison of putrescent animal matters has been introduced into his blood from sewers or elsewhere, the fever takes on the form called *typhus*, in which the pulse is small, weak, rapid; the face earthy, with purple-red patches in the cheek frequently; the eye dull and listless; the tongue brown and moist at first, afterwards passing into dry dark brown, and even black, with the whole mouth and lips so dry as sometimes to crack and bleed; the skin dry as baked earth, harsh to feel, and of a heat to make the fingers tingle; urine copious at first and greenish, then more scanty, darker and browner until nearly black; bowels often loose in the outset and near the fatal termination, but not acting, though easily moved, during the mid portion of the disease; dull headache, apathy, somnolence, muttering delirium, passing into stupor of the worst kind.

Such in a very sketchy way are the chief types of fever as it is most commonly exhibited. But inasmuch as either of the two first, the *inflammatory* and *versatile*, may, by the reduction of the patient's vitality in their course, pass into the third, the low or *typhus*, so there are shades of difference in the course of all of them, which it is quite impossible to describe on paper, although they are clear to the practised eye of the physician. The great point to ascertain in determining the character of the fever, as well as the great point to look anxiously upon in its course, is the degree in which the brain and spinal organs are involved. Fever is only a vehement reaction upon its causes. A violent chill over the whole exterior body happening to a youth of twenty, may produce violent reaction of the whole of the interior in the shape of *inflammatory fever*. This reaction may be so violent as rapidly to exhaust the youthful vitality, and then the inflammatory passes into the *typhus* fever, especially if his interior be drugged. It may be that the youth is not in full health when attacked, and that he is constitutionally of a nervous temperament, with large, and perhaps overworked brain; then the same cause, chill, would be likely to produce an amount of reaction less violent than the former, and involving more immediately the brain and spine, and we should have the phenomena of *versatile*, *typhoid*, or *nervous fever*; which again, by the same process as before explained, may

pass into the lowest type, *typhus*. Sometimes the stomach proper exhibits more tenderness on pressure and other signs of local distress there than in the fevers called *versatile* and *typhoid* are common; and the name of *gastric fever* is given to the malady. Essentially it is the same as the *versatile* and *typhoid*, with more decided irritation of the spinal nerves which go to the stomach proper, and therefore with more liability to involve the brain and spine if meddled with by internal treatment.

This explanation may serve to show the great importance of treating fever at its earliest date, and so moderating the violence of the reaction, and of giving rest to the thinking and locomotive nervous system immediately, so as to obviate their implication in the mischief; and it may also serve to impress upon the popular reader the important fact that fever is a condition of *action*, not a *name*, and that it is the former and not the latter which is to be treated. The reaction is vehement in *inflammatory* fever; it is less so and less sustained in *versatile* or *typhoid* or *nervous* fever; the same, with the addition of particular stomach distress, in *gastric fever*; and in the real *typhus*, the reaction is at the lowest point, the body lying baking as it were, a prey to the oxygen of the atmosphere, without the power of taking anything to supply the waste, and without the power of throwing off the oppression which lies upon its interior vital organs.

With these brief preliminary remarks the treatment of the individual fevers will be more intelligible, and I may now proceed to mention it.

INFLAMMATORY FEVER.

Even when the patient is in the cold stage of shiver the body should be packed entirely in a wet sheet for twenty minutes; and this packing should be repeated every twenty minutes for three or four times, or even more frequently, in succession, so long as the sheets become warm in that space of time. Apply a cold cloth to the head, frequently changed, during the packing; and indeed, constantly. After the one, two, or more packings, take a cold shallow bath for three minutes; if it be winter time, bring the water up to 60° . Get into bed, and have the belly fomented with water at 120° for three quarters of an hour. Then place a very wet cold compress over the belly, and wear it constantly, wetting it afresh every two hours. Drink cold water copiously—a tumbler every hour. Keep the room partially darkened, and at a temperature not higher than 50° , if possible. The packing must be renewed in the same kind of series as soon as the great feverish heat returns; for the effect of the pack and shallow is to thoroughly cool the skin and, as it were, to coax more blood to the skin by reaction, so long as there is any

irritative disorder inside to send out. And the effect of these repeated reactions to the surface is at length to produce secretion of sweat there, and thus to terminate the fever. The sheets, therefore, should be renewed every six, eight, or ten hours, with the shallow after each batch of packings, until it is seen that they become less and less warm; then diminish the number of packs, and increase the space between them. The fomentation must be continued after each set of packs so long as there is great thirst, redness and puffiness of face, headache, and reddish urine; and this even although the skin may have become cooler, and the packs be less necessary. On the other hand, if the head is less aching and the urine less turbid, the fomentations need not be practised after each packing, even although the heat all over the body be still very great, and may require the same amount of packing. If, without any particular increase of feverish heat, there be increased restlessness and sleeplessness, especially towards or in the night, try cold fomentations to the belly, changing the towel every quarter of an hour for two hours. And if that fails to quiet, take a sitz bath at 55° for a quarter of an hour,—a cold cloth to the head during it. Go on with such measures until the organs quiet down, either with perspiration of the skin, increased and clear urine, or looseness of the bowels. Gradually diminish all the subduing treatment, packing, fomentations, compresses, &c.,

and retain and gradually increase the tonic, shallow, and sitz baths—the latter only if the appetite does not return, which rarely happens after water treatment. In fact, that treatment is the most simple and the most sure thing imaginable in this the most simple of the fever forms. The *diet*, so long as the subduing processes are necessary, should be confined to cold water, apple water, lemonade; and not until the heat and thirst diminish considerably is it right to give gruel or other farinaeous liquids; and not until *all* fever has left is it right to give animal liquids, jelly, or broth; there is no fear of exhaustion, and the longer strong food is postponed, the less chance of relapse. Be slow also in acting with the brain in conversation, or business, or pleasure. An enema of a pint of tepid water may be given daily, if the bowels are torpid during the fever.

VERSATILE FEVER.—TYPHOID FEVER.—NERVOUS
FEVER.—GASTRIC FEVER.

The treatment of this form of fever, it is plain from what has been stated concerning its origin and symptoms, cannot be of the same simple and continuous character as that of the inflammatory kind. Still, the essential condition to be relieved is the same, namely, irritation and oppression of all the internal organs; this should never be lost

to the view. But as the vital efforts made by the internal organs are less strong and continuous, as, in fact, they cease every now and then, and at those times give place to symptoms of exhaustion, such as partial cold sweatings, cold feet and legs, pinched face, &c.; so the operations of the treatment must vary with these varying operations of nature; always remembering that she is *permanently* distressed and irritated internally, no matter what the exterior signs may be.

In accordance with this precaution, applications of cold packings with a towel, back and front, and a third folded over the belly, should be made for half or three quarters of an hour, as soon as there is general dry heat of the body; and it should be repeated in succession two or three times if the towels heat rapidly: twice will suffice in most cases. Sponge all over in a sitz or shallow bath at 60° for two minutes after it. This process should be repeated as often as the fever becomes dry and general. But if it does not rage exceedingly, although it be general, it will suffice, instead of the packings, to foment the whole belly with cold wet towels, changing them every fifteen or twenty minutes for two or three hours; as long, in fact, as they will warm speedily. And after such local packing rub the body all over with cold wet towels and then with dry, the patient remaining recumbent meantime. Even if the body be covered with warm sweat, if it be exceedingly fevered *from head to feet*, with

the other symptoms of strong fever excitement, as rapid, hard pulse, throbbing and aching in the head, &c., it will be expedient to pack in the wet towels as above, and to rub with cold wet towels afterwards; the sweat in such case is a sign of disease, not of relief, and there is not the smallest risk in stopping it. Cold water should be abundantly drank during all this treatment, and a cold cloth kept constantly to the head. Such is the manner of dealing with the hot excitements of versatile fever.

But if with a hot trunk, or perhaps with a hot belly only, there be cold feet and legs, and clammy sweat here and there on the body, with apathy, great sense of weakness, moist and brown tongue, and wavering pulse, it will be necessary to apply fomentations at 130° to the belly for two hours, changing the flannels every five minutes. Immediately after which rub the body with cold towels, *moderately* wet, and then with dry; put a cold compress over the belly; cover the body well in the bed-clothes, except the feet, up to the knees, which should hang over the sides of the bed (to avoid exertion) and be well rubbed in four or five inches of water, at 100° , containing two table-spoons of mustard flour. Then wrap them in dry hot flannel, or apply a hot bottle to them. Drink a tumbler of cold water every three quarters or every hour. Apply cold to the head still. If in three or four hours after these processes the cold and clammy symptoms, with

apathy, &c., still persist, they must all be practised again, and continuously repeated every four hours until the internal organs, being relieved of a portion of their distress and oppression, are enabled to send blood to the extremities, and the skin becomes dry, or at least hot. This reaction may be excessive, and then the treatment applicable to the *hot* phase of the malady must be resorted to.

The *rationale* of the treatment will be seen to be—application of cold reactive agents, such as packing and cool baths and cold frictions, whenever the interior is vigorously striving for relief externally; when nature is strong enough to react towards the surface, second her efforts by such agents. But if the interior is too oppressed to make them, and external cold and absence of circulation prevail, then, keeping in mind both the irritation and oppression of the interior organs, the hot applications over them tend to relieve both; the foot-baths tend to draw blood towards the extremities, whilst the friction of the whole surface with partially wet towels stimulates superficially without being sufficient to drive the blood inwardly upon organs which would not be able to return it. And, in either state, the compress to the belly is always soothing that region; and the cold to the head is always mitigating the tendency of irritation thither.

If the reader will study the above, and make himself master of my practical meaning, the water

treatment of this oftentimes tedious malady will be sufficiently clear to enable him to apply it in all the deviations of the symptoms: seconding nature when she is strong in her efforts; rousing her when she fails to make them; and all the time keeping before his mind's eye the intense irritation *always* present in the interior organs, and the possibility of its extension to the brain. It is a fever which often extends to three or four weeks, and if treated by internal drugging, leaves, not unfrequently, dreadful marks behind it on the nerves, on the brain and mind, on the lungs, or on the digestive organs. But if nature be only observed, and her conditions dealt with, as I have endeavoured to show, by the measures (which to the patient are comfortable to luxury) just enumerated, there need be little anxiety as to the result in recovery, and none at all as to the subsequent disasters to the organs above-mentioned.

In the form of low fever called *nervous*, that is, when the heat of the body is great, the cold paroxysms rare, but where the brain and spine are evidently much involved, the packing should be restricted to the belly, practising it for two hours three times a day. This and the compress to the belly for two hours at a time, then omitted for two hours, and so on, is the only subduing process that should be practised. No hot fomentations. The body should be sponged, as it lies recumbent, with cold water several times in the

day. The head should be kept constantly cool. The air of the room should be cold, even draughty; and only a dim light should be admitted. If there be great sleeplessness, a sitz bath at 60° for a quarter of an hour should be taken once or twice a day, especially in the night when there is tendency to delirium. Bathing of the feet and hands with water at 100° for ten minutes, two or three times in the day, is most agreeable and soothing. Cold or iced water in quantities of half a tumbler every hour should be taken; but these, of course, may be augmented if thirst demands it.

When the stomach proper is more especially marked by the patient as the seat of pain or distress, the fever is called *gastric*; and it is one of the most tedious of fevers in duration, although less capricious in its symptoms than the *versatile*, which almost rivals it in tediousness. In gastric fever, cold packings of the belly for two hours morning and noon, and fomentations at 110° for three quarters of an hour at bed-time, should be practised. A compress on the belly should be constantly worn, and changed every two hours or so. The whole body should be sponged over with water at 70° for two or three minutes morning and night. Cold water should be taken in small but frequent quantities. As in *nervous* fever, into which this is very apt to pass if provoked, a cold room is necessary; and, lest the trouble should go to the head, frequent bathing

of the head and the exclusion of strong light are desirable. For the same end, a foot bath of water at 100°, with mustard, should be administered once a day at least.

In all these different forms of low fever the lower bowels should be relieved by injection every third day, if they do not act spontaneously; not so much because there is great accumulation, but because the matter is very likely to be of a most morbid character. The enema to be a pint of cold water only; or if that fails, a pint of infusion of chamomile and a table-spoon of olive oil. However, in the capricious course of these complaints the bowels sometimes take on sudden looseness for two or three times. If the discharge be very morbid in kind, inject a pint of warm water once, and in two or three hours afterwards inject a tumbler-full of cold water. But, if the discharge be not morbid, use the cold injection alone, and repeat it after six or eight hours if the looseness continues. If it plainly is weakening the patient, and is not proving critical of the malady (a favourable crisis being ascertained by the diminution of restlessness, improvement of tongue, better feeling of the skin and head, &c.,) a cold sitz of three minutes should be given, and repeated several times at intervals of four hours if necessary. The compress and packings should also cease until the bowels are more steady.

The *diet* of these fevers is the most difficult

to inculcate, without almost daily inspection of the patient. Appropriate food sometimes produces marvellous results in them, and to them is especially applicable the saying of Hippocrates, *Sæpe optimum remedium est cibus opportunè datus* —“Very often the best remedy is food of the right kind given at the right time.” Only an approximation to precision on this point is possible in writing.

If the symptom of perspiration, liquid or clammy, is very prevalent, it is a signal for giving small and frequent doses of veal or beef or chicken broths, say a wine-glassful every three or four hours, with small quantities of farinaceous liquids in the intervals, unless there be strong repulsion on the part of the patient's stomach. A clean and fiery-red tongue also points to this kind of diet. Lemonade and other fruity sub-acid drinks should also be given if the patient desires them. In these sweatings Nature is making a partial and ineffectual attempt at relief, and she should be aided by food: the rather as when there is sweat, even of the morbid sort, the stomach is generally willing to receive food of the animal kind. But when the extremities are cold, the pulse oppressed, the face pinched, earthy, and dull-looking, the tongue brown in the centre with red edges, the stimulation of food must be applied with great caution, although the symptoms are those of weak circulation and depression. In truth, however, at that very time the inter-

nal organs are so oppressed by the quantity of congested blood in their different tissues, that the vehement irritation of the nerves which drew all that blood towards them is masked, and only the phenomena of congestion within and of absence of circulation outside are remarked. Experience shows this condition of irritation to be at the foundation of the phenomena: for strong food, and especially alcoholic stimulants, which are so constantly and freely given under these circumstances, as constantly exasperate them; the only heat which they increase being that about the belly and head, where it is most undesirable; whereas ice and iced water swallowed, and persevering hot and cold fomentations over the belly, and foot baths, as before mentioned, gradually relieve the intense internal irritation, and so recall the power of the interior nerves to send blood outwardly. When this flow of blood outwardly, as shown by the warming extremities, has fairly set in, *then* the effect of *small* quantities of animal broth frequently administered may be tried, but must be watched; on the slightest signal of returning cold, cease to give them, and go back to ice and fruit waters. All this demands much anxious attention. In a case of this sort lately two physicians had been watching Nature and trusting to her operations, and so the patient held out for a fortnight: a *bird very* old-school physician being called in, exclaimed, ‘You have been doing nothing: he

is dying for want of help," and thereupon ordered brandy; *immediately* after which the patient ran down rapidly and was dead in seventy-two hours. That is the history of many a case of versatile and typhoid fever.

It is a certainty to my mind that if the different forms of fever of which I have been treating are all subjected to judicious water treatment from their early stages, they would rarely if ever pass into that form called *typhus*, with all its dangerous cerebral and spinal complications. But as *typhus* often takes possession of the body with only a few days of preliminary uneasiness and in consequence of a poison taken into the blood, slowly or rapidly, from without, I will not refrain from mentioning how it should be dealt with when thus originating; although it is too formidable a malady for a layman to undertake to treat on his own responsibility.

I have already stated how the diarrhœa which ushers in typhus is to be treated (p. 73). As soon as it is over and the typhoid heat established, packing from the lower edge of the ribs to below the hips, in wet towels, should be commenced, applying it twice in succession for half an hour each time; after which sit in a shallow bath that is dry, and have three or four buckets of water at 60° poured over the head and shoulders; add another bucket of quite cold water to the bath, and sponge and splash the body largely for five minutes. Dry the body; get into bed; apply

a cold compress to the belly and a cold cloth to the head: and drink a claret glass of iced water every fifteen or twenty minutes, or more frequently if the thirst is great. Wet the stomach compress every hour. The air of the room to be as cool as possible, with abundant ventilation by window and door without passing over the patient; and the light to be dimmed. When after four hours the typhus dryness and heat are re-established, repeat the packings and shallow bath. If the exertion of sitting up in the shallow is too great for the patient, rendering him breathless or faint, he should be sponged well for five or eight minutes on the bed with cold water, or rubbed gently with cold and very wet towels. But if there shall have been any signals of stupor since the previous packing (*stupor* as distinct from *sleep*), then the patient should be lifted after the packing into a sitz bath of cold water, and sponged well therein for five minutes.

These packings and washings should be continued every three, four, or five hours, according to the intensity of the symptoms, until the skin becomes more cool and less dry, the mouth less parched and dark, and the brain inclined to quietude if not to sleep. When this tendency to amelioration is certain, take off one of the packings, and sponge the body on the bed for only three minutes every four hours: maintaining the stomach compress and the head cold as before. At this point, also, give a wine glass of strong

beef tea every three hours: the diet heretofore having consisted only of iced and acid drinks, with a wine glass of chicken broth every three or four hours, and a frequent small piece of toast soaked in tea with much cream in it, and allowed to dissolve in the mouth. That ancient plan of dosing a patient largely with wine and constant food from the very outset of the symptoms, simply because the fever is called a *low* fever, has driven many a case at an early date into the second and most fatal stage of *stupor*, not only by irritating the abdominal nerves and drawing more blood thither, but by driving blood towards the brain, the feebleness of whose blood-vessels renders it unable to get rid of it, and so oppression ensues. Not until the treatment has so far subdued the interior irritation as to enable its organs to make efforts for self-relief, should stimulation be applied in other than the most limited and careful degree. The smallest increase of heat, of delirium, of twitchings of the limbs, of cracked tongue and lips, should be accompanied by increased care in the quantity and stimulating quality of the food; whilst, on the contrary, as the skin cools and softens, still more if it becomes clammy with sweat, probably of a strong greasy odour, stimulation of diet may be carried steadily but cautiously on even to the administration of claret and water, or sherry and water, in strengths of equal parts and in the dose of a table-spoon every two or three hours. At no period of the

malady is watching so necessary. The patient should be inspected before every dose of food, in order to regulate the quantity and quality: relapse at this point is fatal, and it is easily produced by *over* stimulation.

But suppose the stage of *stupor* to have supervened; the patient should then be lifted out of bed by several persons, so as to avoid the smallest strain on his muscles, and placed into a sitz bath deep with cold water—the colder the better. The head should be thrown back and supported by some one sitting behind the bath, and the body covered with a sheet; and he should remain in this bath for twenty minutes or more. If the water becomes warmed by his presence in it, ice or more cold water should be added. Meantime, ammonia salts should be frequently applied to the nostrils; and the feet should be rubbed over the front of the bath with water at 100° containing a large quantity of mustard or cayenne pepper. Under this treatment I have repeatedly seen patients in the stupor and muttering stage of typhus awake and speak slowly, and, upon being put into bed, go into a refreshing sleep, from which they awake without delirium. I have also seen it arrest the involuntary diarrhœa which sometimes comes on with this most dangerous stage of typhus fever. As in typhoid fever, it would be well to relieve the bowels every day, or every other day, if they are constipated during the course of the disease; but only with small

quantities of cold water—just enough to stimulate expulsion of matter already deposited.

I have entered upon the treatment of *typhus* more especially for the purpose of counteracting the generally entertained idea that, from the commencement, it must be treated as a disease of unmingled weakness and oppression, and must be stimulated accordingly: an idea which the hydro-therapeutic treatment just quoted, and so frequently successful, falsifies. It is one of those maladies which I do not advise non-professional persons to undertake to treat without medical advice; but if any medical gentleman could be found candid or inquisitive enough to watch the procession of the symptoms and instruct the patient's friends as to the presence or absence of effort or oppression in the organs, I should have no hesitation in advising them to follow the programme of treatment above recorded; being assured that it affords the patient the best chance of recovery.

FEVER WITH ERUPTION.

Eruptive fevers are at once divisible into those which are the result of animal poison, and those which are not. Of the maladies about which I shall speak, measles, scarlet fever, small-pox, are instances of the former; erysipelas, boils, nettle-rash, of the latter. It has been said that erysipelas is infectious; but that is only

when the fever accompanying it has an infectious character; and still more commonly is it the fact that it is only epidemic in instances where many persons are found to have it close upon each other. In any case, it has no resemblance to measles or scarlet fever in the fixity of its symptoms and duration.

One general observation to be made regarding measles, scarlet fever, and small-pox is, that the eruption is the outward and visible sign of some intense internal irritation caused by the presence of the subtle poison on which their infectious character depends. To throw off such poison seems to be the aim of the tumultuous fever which its presence rouses; and, with rare exceptions, the body, when once it has thrown it off, is incapable of absorbing it again. The apparent necessity that each civilized human being should imbibe these poisons once in life is one of those numerous secrets that are to be found in the history of healthy and diseased life: we know nothing about the causation of it.

However, as this expulsion is the aim of the body and the eruption is the sign of such aim, the eruption becomes a very fair representative of the vigorous or enfeebled condition of the interior organs to carry out their own relief. Certain quantity and certain colour of the eruption in measles and scarlet fever indicate the safe or unsatisfactory character of the attack; and in small-pox the shape and colour of the pustules

do the same. Add to this that, according to an unfathomable law of Nature, each of these complaints has a fixed duration for the eruption; and we have a much more sure basis for prognostication and treatment than in fevers without eruption. Out of these facts grows another general observation regarding the maladies in question, namely, that the treatment which they require is to be measured by their adherence to or deviation from the natural process of eruption and duration. An eruptive complaint of this kind which is perfect in the colour and quantity of the eruption, which eruption has appeared on the right day, may as a general rule be left to Nature; relieving only by palliative measures the disagreeables of the fever which is inseparable from the eruption: it is then easy to be too active. But this point will best appear in the details of treatment as applicable to the individual disorders.

MEASLES.

So soon as the preliminary signs of the disease appear, such as sneezing, running of tears from the eyes and of mucus from the nostrils, short, dry cough, shivers, &c., the patient should go to bed in a room at 65° . If in the course of twenty-four to thirty-six hours the cough increases and no eruption appears, or appears only in patches and of a pale pink, the patient should be packed

all over in a wet sheet or in wet towels, for three-quarters to one hour, as he warms quickly or strongly; after which sponge all over in a sitz or shallow bath at 70° , and dry with gentle friction. Apply a cold compress over the chest. Sip water frequently. If the eruption does not come freely in the course of twelve hours after this packing, repeat it and the sponging. Two such packings never fail to elicit a full eruption: but these packings must be persevered in every eight or ten hours until it does appear freely. Whenever this is obtained, whether by the process just stated, or by the unaided effort of the interior organs, the amount of treatment must be regulated by the amount of disorder in the lungs and the quantity of fever present. Generally speaking, a copious eruption is unaccompanied by great bronchial disorder and cough, the first relieving the latter. But should there be a considerable amount of cough, there will be a considerable amount of fever likewise; and then, although the eruption may be complete, there must be packing of the body for half an hour two or three times a day, sponging with water at 80° after each time, and wearing the compress on the chest constantly, wetting it every two or three hours. By these means the mischief in the chest will be suppressed, and the fever kept under; and, as a consequence, the too frequent delicacy of lungs which follows upon measles, will be prevented. And hereon it is to be remarked

that when there is sharp inflammation of the air tubes, *spite of the presence of a full eruption*, it is for the most part because the patient has constitutionally a tendency to chest disease: the greater the necessity, therefore, for obviating it vigorously by the measures indicated.

Thus treating the two cases of imperfect eruption and of free eruption with acute lung inflammation, there only remains the case of free eruption with slight trouble in the lungs and ordinary amount of feverishness. Such a case only requires that the compress should be kept on the chest; that the body should be sponged all over with water at 85° morning and night; that the hands and feet should be bathed for three or four minutes once or twice a day with water at 100° ; that the air of the room should be kept at 65° ; and exertion, especially the exertion of talking, should be avoided. These measures are rather intended to afford comfortable sensations than to combat the disease, which is meantime running its course of eight days in the natural way, and needs no more treatment.

The *diet* in measles will be of the cooling and non-stimulating kind, such as farinaceous liquids and solids, subacid fruity beverages, now and then stewed fresh fruits, grapes, ripe pears, weak tea, &c., unless there be slowness and difficulty in the forthcoming of the eruption, with weak pulse; then a wine-glass of veal or

chicken broth may be given every three hours, in addition to tea or farinaceous drinks, until, by the aid of the packings, the tumult of eruption is fairly established: then either reduce the quantity of, or omit altogether, the animal liquid food, according to the amount of bronchial inflammation and *dryness* and frequency of cough present.

As in all cases of fever, let the bowels be relieved by injection of olive-oil and warm water or warm gruel every other day, if they fail to act spontaneously.

If among the preliminary signs of measles there be vomiting, or if in the course of the malady there be decided digestive derangement of stomach or liver, or both (see the signs of these under those heads), fomentation of the upper stomach with water at 120° should be practised for three-quarters of an hour, once or twice a day; and a stomach as well as a chest compress should be worn. The same fomentation may be beneficially employed when, besides the slowness and imperfection of the eruption, the patches of it which do appear have a purplish hue. But in the former instance the diet should be kept down; in the latter, animal liquids should be given every three hours as above mentioned.

SCARLET FEVER.

Here also the treatment must be regulated by the slowness, the imperfection, or the vigour with which Nature is performing the process of elimination from within outwards. But as the defective eruption and therefore untoward course of disease is much more frequently met with in this complaint than in measles, and generally involves more immediate danger, it is more necessary to anticipate the difficulty, and deal with it during the preliminary symptoms. When therefore pains of loins and limbs, strong shiverings, headache, sore throat, (with perhaps epidemic scarlet fever all around), give reason to suspect the advent of the disease, packing of the whole body in a *well-wrung* sheet or towels should be at once practised for one hour, a thick cold compress being round the throat at the same time, and cold to the head likewise: a hot bottle to the feet should also be well applied. After this packing let the patient sit in a dry bath, and have a pail of water at 100° poured over his shoulders, followed immediately by another pail at 70°. Come out directly, and dry smartly. Get into bed, and at once foment the stomach for three-quarters of an hour with water at 120°. Cold compress to the stomach after this, wetted afresh every two hours. Another *thick and*

cold compress, round the throat constantly. Wet the compress often. If the eruption does not begin to come out freely in twelve hours, repeat the above proceedings, and do so every eight, ten, or twelve hours, according to the facility in warming the sheet or towels. The fomentation should be applied immediately after each pack, and in six hours afterwards also.

If this proceeding elicits a full, healthy, red eruption, the treatment required will probably be only a sheet packing night and morning for three-quarters of an hour, with an affusion of three pails of water at 80°; constant compress to throat and stomach: and copious quantity of cold water to drink, say, a tumbler every hour and a half. Soaking the hands and feet in water at 100° for five minutes, two or three times a day, should be done: it relieves the head and the restlessness. There is always more general unrest and brain irritation in this eruptive disease than in measles: so much so that, although it may be going through its natural course, packing is required to calm the irritation of the skin and prevent it from involving the brain to a greater extent; and it may even be necessary to pack more than twice a day. In some cases of this fever lately treated by Dr. Laycock of Edinburgh with sheet packing, he kept the patients as long as three hours in it: whereby he ran the risk of irritating the brain by accumulating caloric on the already heated and irri-

tative skin. It is plain that the physician in those cases had not got at the true meaning of the packing, which only *soothes* when it is *withdrawing* heat from the surface; if the heat so withdrawn is allowed to accumulate, it becomes an *irritant* to the skin. In ordinary cases of scarlet fever, packing for half or three-quarters of an hour is quite long enough; in very *fierce* fever even that would be too long. Throughout the malady the room should be maintained at a temperature as low as 50° if possible; and, looking to the irritable brain, light should be considerably excluded.

Should the attack occur in a person of weak or shattered constitution and take on the form of fever which is called *low*, with dark ill-conditioned sore throat, and purplish and partial eruption, affusion on the body in a dry shallow bath should be practised three times a day with one pail of water at 100° and one at 70°. After each affusion, foment the stomach and the throat simultaneously for one hour with water at 130°, containing a table-spoonful of mustard flour to each quart of water employed, changing the flannels every ten minutes—not oftener. After this compress the throat and stomach with cold water, and change them as soon as they become decidedly warm. A foot bath of mustard and water, taken by hanging the feet out of bed and rubbing them for eight minutes every three or four hours, will be found useful; as will also the

frequent soaking of the hands in hot mustard and water for ten or fifteen minutes. The patient should very often snuff a bottle of carbonate of ammonia; and should also suck half a camphor lozenge every hour or so. Cold cloth to be constantly applied to the head. Ice and iced water to be taken plentifully. The air of the room to be cool, and to be made abundant by open door and window. If by these measures, as well as by the appropriate diet, the skin eruption becomes more plentiful and less purple, the packing of the trunk from under the arms to the knees in wet towels or sheet, for half to one hour according to the amount of heat, should be practised three times a day instead of the fomentation of the belly with mustard and water. But the fomentation of the throat with hot mustard and water should be continued during the packing, until the decided improvement in the colour of the throat leaves no doubt about its state; for the eruption will sometimes become more favourable without the throat improving equally. In this manner the disease may be brought into its natural course of evolution, and then it should be treated according to the amount of fever and restlessness present, either by occasional packings and warm affusions, or by warm affusions only night and morning: the temperature of the water being 90° and 70° . But should stupor of the brain come on, as it sometimes suddenly and almost unexpectedly does in

cases of this kind, the patient should be carefully lifted into a cold sitz bath, and kept there for fifteen, twenty, or even thirty minutes, the feet being held in hot and strong mustard and water meantime. As in *typhus* the brain will often awake under this treatment, and then the patient should be put into bed and the belly packed for several hours with folded cold towels changed every forty or sixty minutes; and a strong mustard plaster placed between the shoulder-blades for half to one hour. Whenever the tendency to relapse into stupor appears, apply again to the cold sitz bath and hot foot bath as before.

As regards the *diet* in scarlet fever, it follows nearly the same rules as in measles; being meagre or strong according to the vitality exhibited by the internal organs in the elimination of their irritation. But the rules apply more strongly to scarlet fever. If the fever and eruption are both strong, the diet requires to be of the most non-stimulating kind: frequently only cold water and cold barley or rice water, for six or seven days, and then only to be improved in character with the greatest caution. The brain and spine are always, even in the most favourable cases, very touchy organs in scarlet fever, and are the ready recipients of transferred irritation either from the skin or the internal organs; and thus it happens that some excessive hurry to feed the patient rapidly leads to inflammation of the membranes of the brain or

spine, and some partial paralysis, or wry neck, or chronic spinal irritation with neuralgia in various parts, as the result: and this when the disease is just finishing its natural course, but when the patient's friends are in a hurry to *strengthen* him with food.

In the scarlet fever with imperfect development of eruption, half a tea-cup of strong broth, made of equal quantities of beef and veal or chicken, may be taken from the beginning and may be repeated every three hours, the thirst which it may produce being watched meanwhile, and the strength of the broth altered in accordance. Iced water, fruity drinks, and farinaceous liquids, especially strained gruel, being given as frequently, in small quantities, as the patient can be persuaded to take them. It may be even necessary to administer a tea-spoonful of sherry in half a wine glass of water every two hours, but *not* if there is tendency to stupor, only if there is cold flabby skin instead of full and hot, pinched face instead of puffed, cold feet and hands instead of burning, and patchy darkish eruption instead of general and bright scarlet. Alcoholic drinks always intensify stupor; and it is the fear of inducing it that renders their *most careful* employment imperative: for in this fever especially the complication of the brain is to be dreaded. It is because the nervous centres have just passed through the great exertion entailed upon them in the act of par-

turition, that scarlet fever occurring soon after the woman's labour is almost invariably fatal: they are involved from the very commencement.

I look upon the treatment of scarlet fever as one of the greatest triumphs of water cure. It is now twenty years since I first treated that disease hydrotherapeutically: in fact it was the first disease of any kind which I so treated, and that in the heart of London. Since then I have had abundant experience of the fact that, besides guiding the patient with the least possible discomfort through the stages of the malady, it protects him from those consequences to which I have alluded, and, with scarcely any interval of convalescent languor and incapacity, passes him on to genuine health and strength again. To it may be peculiarly applied the line which appears on the title-page of this volume—

“*Pacaturque ægro luxuriante dolor.*”

And, meantime, it is one of the easiest complaints for a non-professional person to treat.

SMALL POX.

The tumult preceding the eruption of small pox is generally longer than in the preceding maladies, and is characterized rather by rude shiverings, nausea and vomiting, and intense pains of head, loins, and limbs, than by feverish heat or feverish pulse. Complete rest of body

in bed is the first thing indicated: with cold to the head. As the tumult increases, and fever, with a few of those dreadful semieireles of pimples, is observed, pack the trunk from under the arms to the knees in wet towels for half to three-quarters of an hour, and follow it with sponging all over in a sitz bath at 75° to 80° for a minute or two; then put a compress on the stomach and a cold cloth to the head, both of which should be frequently changed. As the object in small pox is, to carry off feverish irritation by the surface rather than to urge a fierce eruption of pustules thither, the number of packings must be confined to the necessities of the feverish excitement, and the baths which follow should be tempered to 70° or 75° , so that no excessive reaction may take place. The number of pustules is always in proportion to the susceptibility of the patient to infection and to the amount, therefore, to which he has absorbed the poison: so that in some persons the attack only exhibits a dozen pustules over the whole body: in others they are so numerous as to run into each other and to exhibit *masses* of eruption, especially on the face. Now it is not desirable, as I said, to increase the number of these pustules by reactive treatment; and for another reason still: the inflammation of the skin in small pox differs from measles and scarlet fever in going deeper into its tissue, and even below it. Each pustule is, in fact, a boil, and is therefore a source of

immense irritation to the nervous system, which thus is standing between irritants from without the body, as well as from within it. It will be plain, then, that it is not desirable to multiply the irritative points on the skin by strong water reaction; but simply to soothe the fevered and inflamed skin by packings, and tepid baths after them. These packings, in an ordinary case of small pox, may be three in the day. The bowels should be eased by enemas of warm gruel and olive oil every day. Compress to the stomach and cold to the head almost constantly. Cold and dark room invariably. Some have said that *total* darkness, from beginning to end of the disease, prevents pitting after it.

The *diet*, in an ordinary case, should consist only of farinaceous liquids, cold water, fruity waters, tea with toast or biscuit soaked in it. This will do very well during the first seven or eight days of an eruption which is distinct and of good kind. But as the pustules begin to flatten and dry, a tea-cup of veal or weak beef broth should be given twice or thrice a day in addition to the farinaceous liquids: for there is considerable exhaustion when the efforts of the body are finished, which cessation the shrinking of the pustules shows.

The deficiency of such efforts is shown when the pustules are flat from the beginning, very soon run into each other, and are darkish or pink. A very dangerous disease is then present—a

disease which I do not recommend any one to treat without professional advice, and on which, therefore, I do not purpose further to dwell. In fact, no one should attempt to manage small pox without a medical man, save in the mildest and most regular cases: for which alone the short suggestions just given are intended.

CHICKEN POX.

In a majority of cases this complaint requires nothing but rest of body and some diminution of the strength of the diet. But should there be any considerable amount of feverish excitement, commensurate, as it is, with the amount of pustular eruption, the same details of treatment which have been given for ordinary and favourable small pox (to which chicken pox is a cognate malady) may be acted upon. Very probably less packing will be required, as the pustules are rarely so numerous: and the baths after the packs may be 5° or 8° lower than those administered in small pox.

ERYSIPELAS.

This is an eruption indicative of a certain phase of irritation in the digestive organs, but not the result of efforts of those organs to throw off the

consequences of an absorbed poison. It is not desirable, therefore, as in measles and scarlet fever, to encourage full evolution on the surface, but simply to reduce the internal irritation which acted as a predisposing cause: the exciting cause being usually damp and cold, or east wind, or fierce rays of the sun, or bites of insects. Without such predisposing condition of the digestive organs, none of these excitants would be likely to bring on erysipelas: the sympathy between the lining and covering mucous membrane (that is, the mucous membrane proper, and the skin) accounts for this.

Accordingly when erysipelas makes its appearance on the face, throat, legs, or loins (its most frequent localities), packing should be resorted to, in extent and frequency in proportion to the fever present, not to the extent of the eruption: for that may be small in extent but deep in the tissue of the skin, or large in extent but very superficial. The amount of fever is therefore the measurement of the packing required, whether it be effected with towels or sheet, whether it be repeated three, four, or more times in the day. Dry tongue, thirst, headache, shivers, restlessness, are good signs as to the amount of fever. Vomiting also indicates severe internal irritation and fever of the stomach. Each packing should be for half to three quarters of an hour, unless the fever be exceedingly severe: in which case twenty to thirty minutes

will suffice. With the symptoms just enumerated fomentations of the stomach at 110° for forty minutes, whilst fomenting the inflammation, may be added twice a day. After each packing sponge over for a couple of minutes in a sitz or shallow bath at 75° : for it is not, as I said, desirable to cause strong reaction towards the surface by *cold* water. Three or four times a day foment the inflamed skin with water at 120° , or at 130° or 135° if the inflammation penetrates very deeply into the cutaneous tissue, which is known by the hardness and *leathery* feel of the skin. The fomentation should be continued for one to two hours each time, and should be effected, not with flannels, but with linen towels; the woollen irritates the inflamed surface. It is very desirable to foment erysipelas with water containing the smallest possible quantity of saline matters; and if none but such is to be procured, the fomentation might be favourably made with thin gruel, properly strained. A strong decoction of poppy-heads is often useful in the same case: the oleaginous seeds covering, as it were, the salts of the water, and the opiate in the seed-box perhaps acting as a sedative to the cutaneous nerves. In the intervals of the fomentations a compress of cold water should be applied over the erysipelatous part, even if it be the face, and should be changed every three hours, not oftener: neither should it be covered with oiled silk, but with flannel. In this com-

press distilled water, or water that has been boiled and then cooled, should be employed. If the eruption is on the scalp, the hair should be cut as short as possible in order that fomentation and compresses may act freely upon it. Should the inflammation of the scalp be seriously intense, the packing should be with the entire sheet every three hours; and if there be the slightest tendency to stupor, a cold sitz for a quarter of an hour or twenty minutes should be administered an hour or so before every or every other packing. The lower bowel to be stimulated with an enema of olive oil and gruel at bedtime daily, except when it has been evacuated naturally.

With appropriate *diet* the above plan will cure erysipelas in the great majority of cases, even in very severe cases; the only exception being those in which dilapidated constitution allows of but small hope, let the invading disease be what it may. In ordinary erysipelas the only food admissible is weak tea and toast, farinaceous liquids, solid farinaceous things—such as rice, sago or arrowroot puddings, boiled maccaroni, cauliflower, peas; but no fruit or fruit waters. If the patient is aged, beef tea or some solid chicken may be added twice a day; and when the patient's previous history tells of a shattered constitution, some claret or sherry with water may be necessary, although its effect on the feverish symptoms should be closely

watched. Fatty, oleaginous articles of food are especially objectionable in this complaint: so that butter is excluded.

The mind has a marked effect upon erysipelas: indeed it is not unfrequently a predisposing cause when affected with sorrow or worry. In the course of treatment this must be borne in remembrance, and the spirits made as cheery as possible, avoiding excitement. The room should be from 60° to 65° of temperature, and well ventilated. Generally speaking the patient is wishful to take cold water abundantly, and he may do so to the amount of seven or eight tumblers in the day: he will scarcely desire it unless there is fever to justify taking it.

NETTLE RASH.

This curious malady is very frequently connected with some constitutional peculiarity whereby a person swallowing a very small quantity of vegetable acid, an ordinary nut or almond, a morsel of salted meat, &c., is speedily attacked with the white and red and hard and intolerably itchy lumps on the skin, which go by the name of Nettle Rash. The irritation of the itching is so intense as to cause shivering and feverish reaction. It is to quiet this last, as well as to mitigate the itching, that recourse should be had at once to sheet packing, which should be ex-

tended to one hour, in order that it may act as a vapour bath; for the fever is never very acute, and frequent reaction is not necessary where most of the fever arises from the skin itself. A shallow bath at 80° should be given after it. If after three or four hours there is no fever, the itching still persisting, a vapour bath should be taken, applying the vapour gradually, and for fifteen to twenty-five minutes altogether: a cold cloth on the head during the process; water to be sipped freely also. A shallow bath at 60° after it for two minutes. This packing may be practised every morning and evening, and the vapour bath at noon, until the irritation disappears, which it will generally do in thirty-six to forty-eight hours. If the tongue, dry and foul, gives evidence of much gastric feverishness, it might be well to foment the upper stomach at bed-time for three quarters of an hour with water at 120° . The cold compress should be worn on the stomach constantly, and wetted afresh every three or four hours. As acid or some poisonous action of articles of food is a very frequent internal cause of nettle rash, water should be drank copiously wherever such cause is traceable, or when there is much fever of stomach: the rather as the perspiration in the vapour will thereby be facilitated. A tumbler every two hours will usually be required. Remain in rather a warm room, at 65° to 70° , to avoid chill and reaction to the surface.

Nettle rash sometimes appears without any of the usual dietetic causes, in persons belonging to gouty families; and in females when the monthly illness is passing off. In the former case the packing should be employed as before, but with a shallow at 60°. And, instead of the vapour bath, a dry lamp sweat should be administered, and a shallow at 60° after it. Fomentation at bed-time likewise; for gouty irritation of the digestives is one of the most intense. This kind of nettle rash I have most commonly seen in *females* of gouty families, who exhibit no other sign of the family malady. Just as in *men* the specific digestive irritation on which gout depends is thrown out upon the fibrous coverings of the joints, so in females it would seem to be thrown out upon the skin in the shape of nettle rash: perhaps because the gouty condition is never so strong in women as in men, and the transfer to the exterior appears in a less fierce guise than the frightful inflammatory pain of articular gout. I have seen attacks of this kind continue for a week.

In the case of the eruption on the passing of the monthly illness there is evidently transfer of irritation from the womb to the surface: and all that has to be done is to soothe the latter with packing for one hour and shallow at 80°, morning and evening; omitting the vapour or hot-air bath. It passes off in a day or two; but in order to prevent its recurrence in the next

month it would be well to take a vapour bath at noon two or three times a week, with a shallow at 60° after it, and a cold sitz bath for a quarter of an hour every day. The former of these processes will put the skin into good order to resist any transfer towards itself, and both that and the sitz will tend to regulate the next monthly illness, so that it shall be complete without transfer. For there is always something wrong in the uterine organs in women who have such transfer: and they are almost invariably afflicted with *whites* of a bad kind in the intervals of the illnesses.

Of the *diet* in nettle rash all that needs to be said is, that if the attack is due to articles of food which have generated acid in the stomach, sweets, green vegetables, roots of all kinds, even potatoes, and fruits of all kinds, should be avoided. Even liquid and solid farinaceous articles have a tendency to acidify in the peculiar state of the stomach. It will be better to restrict the diet to dry, stale bread, butter, lean well-done animal food of any kind, and cold water alone for beverage. In the cases of special poisons applied to the stomach, and of transfer from the womb, so much precaution need not be observed. And when the malady occurs in gouty persons, butter and all oily things, hot and acid condiments, raw vegetables, pastry, sweets, and salted meats should be especially omitted: lean meats and farinaceous vegetables being permitted.

BOILS.

Some people say that Boils are a relief to the body, and others that they are a sign of its debility. The latter found their belief on the fact that the boils sometimes disappear under a treatment of beer and port wine, more than on the fact that the patient suffers from alternate languor and restlessness during the eruption. Yet such languor and restlessness are evidently due to the irritation which the inflamed skin and cellular tissue underneath cause to the spinal nerves so plentifully distributed in those organs—irritation which is transmitted by those nerves to the brain and spine, producing there the conditions which are exhibited in languor and irritability. That this is the explanation of the apparent debility I have satisfied myself a hundred times; for, great as the muscular languor may have been, I have never found a weak and small pulse going with it; and *that* is the real signal of true, that is, organic debility. It is an old observation that one boil begets others; and the sympathy of all regions of the skin with each other readily accounts for this. Now, suppose that some digestive disorder has to be thrown off, and that Nature (stimulated perhaps by a hot sun, or dry east wind, or by the presence of dust and dirt on the skin) takes the skin as the surface on which to effect it, and the pointed

inflammation called a boil as the form; that boil occurring in a bad-conditioned skin soon spreads its special irritation over it, and other boils—a *crop*, as it is called—are the result. These repeated inflammations worry, as I have said, the nervous system, whose disorder constitutes the debility. The skin, in fact, continues the external eruption long after it has carried off the internal irritation which produced the first boil: and thus from being a source of relief to the disorder of the noble organs within, they become themselves a distinct disease and a source of irritation to the entire nervous system. When, in this state of things, a stimulant like alcohol, in the shape of porter or port wine, is put into the stomach, it sets up therein a degree of excitement which, continued by the repeated doses of the stimulant, acts as a counter-agent to the irritation going on in the skin. Add to this, that the stimulants operate on the brain and spine so as to give them temporary power to resist the influences coming from the diseased skin, and you have some explanation of the manner in which porter and port wine operate in causing the cessation of a crop of boils: although the cases of such cure are by no means so numerous as they are supposed to be; and be it remembered that porter drinking is a not unfrequent *cause* of boils. This also goes to explain how it is that boils are by some called a relief, by others a sign and a source of weakness. They

do bring relief if they are of an appropriate number and depth and duration; beyond that point they are a distinct disease, and generate the phenomena of nervous weakness.

A boil is a pointed inflammation of the true skin, which, beginning in the shape of a small itchy pimple, dips below the true skin into the soft cellular tissue underneath it, and there terminates by depositing matter of a purulent kind, which, pressing outwardly, absorbs the true skin and cuticle, and thus finds an exit for itself, if it has not already been found by the lancet of the surgeon. It has two distinctive characteristics: it is a pointed or, so to speak, a distinctly located inflammation, the rest of the skin being uninflamed; and it involves other tissues than the skin. When two or more of them coalesce, what is called a *carbuncle* is the result. (See my work on the "Water Cure in Chronic Disease," 9th edit. p. 444, for the difference between a boil and a carbuncle.)

We will suppose, then, that an outbreak of boils is suddenly effected, producing much constitutional disturbance and sense of weakness. The skin should, first of all, be soothed over its entire surface by a bath or three pails of water at 90° and a fourth one at 60°, thrown over the shoulders: drying without much friction after it. This should be done night and morning. Once or twice in the day take a foot bath of water at 80°, with a tablespoon of mustard

in it, for five or eight minutes. The object of this is to ease the head of any irritation which the boils may be inflicting upon it. If the position of the boils permits of locomotion, the foot bath should be at 60° and exercise should succeed it. If the irritation of the boils is so great as to involve the stomach to the amount of nausea or vomiting, fomentations of the upper stomach at 120° for half to three-quarters of an hour, should be practised once or twice a day; and the cold compress applied over the same part in the interval, changing it every two or three hours. As these operations are intended to protect the head and stomach from the effects of the inflamed skin, so the pail douche warm baths are intended to soothe the whole skin and so obviate the further extension of the boils. And this, with appropriate diet, generally succeeds in the course of a week or ten days. The malady being a pointed inflammation, it is desirable to get the remainder of the skin put into such a position as that it should not be inclined to fall into the boil inflammation. But should the boils tend to extension after a week of the above treatment, it will be necessary to endeavour to produce greater secreting activity *all over the skin*, so that the tendency to *pointed* inflammation may be diminished. For this purpose a lamp-sweat should be tried at noon. It should be *very slowly* administered: it is better to effect the sweating in half an hour than in a quarter of

an hour. After the sweat for ten to fifteen minutes, a pail douche of warm and cold water, as before, should be given. This and the douche night and morning may be continued for three days; and repeat it for two days more if the boil tendency still exists. The lamp will often put a stop to boils in a marvellous manner; but it is always better to try the other processes indicated alone, at first.

The treatment of the double boils called *carbuncle* should follow nearly the same route: only the pail douches should *all* be at 90° , and three times a day; and a sitz bath at 96° for a quarter of an hour, a cold cloth on the head during it, should be taken at noon and at bed-time. It wonderfully quiets the brain, which is in sore peril from excitement at first and from stupor afterwards. The stomach fomentations should be made with mustard and water, or even a mustard poultice should be placed over the pit of the stomach, if, as sometimes happens, violent stomach symptoms, vomitings, &c., are present. Complete rest of body on bed or sofa is always desirable in carbuncle: so gravely does it involve the nervous system.

The *local treatment* of boils varies with the vigour or languor of the inflammation which constitutes them. If after one or two boils others threaten in such a manner and with so little internal disorder as to warrant a belief that they are not acting as a relief, but are in

themselves an actual disease of the skin, it would be well to attempt their suppression at once, whilst yet only itchy pimples, by the application of some very strong stimulant, such as boiling water, or the strongest overproof alcohol, or tincture of iodine, or strong nitric acid, all applied exactly and only to the inflamed pimple. This frequently stops the inflammation altogether. If the boil is hard and indolent, fomentation with water at 140° to 150° for an hour at a time and three or four times in the day, changing the linen (not flannel) every three minutes, will either expedite the formation of pus or disperse the inflammation. Care should be taken not to foment a greater extent of skin than the boil, as, in the state of that surface, it might excite it to form other boils. The same applies to the compress which it is proper to apply between the fomentations, and which should be cold, covered with oil silk so as to become very hot and moist, and changed every two hours. The more dull the boil, the more frequent the fomentation. If it is very *purple* and indolent, a compress of linen gently wrung out of strong camphorated spirit may be used instead of the water compress, and changed as often as it becomes dry.

If the boil progresses rapidly towards suppuration, all that is needed is to keep it at a gentle degree of moist heat, confining such heat as much as possible to the boil itself, lest it should generate

others. It matters little for this purpose whether a poultice of linseed meal or a thick lint compress wrung out of hot water be employed: but the temperature should be kept as near as possible to that of the inflamed skin, which will probably be 100° to 105° ; it being desirable not to stimulate the parts with great heat nor with great cold, since the suppurating process is going on naturally. That practice of putting boiling hot poultices to boils which are readily suppurating is to be avoided: it enlarges the depth and extent of the present boil, and is the fertile cause of others. As the suppuration diminishes the compress is preferable to the poultice, being less heavy and more cleanly, and it should be applied at a gradually diminishing temperature until it becomes cold; so that it may prove tonic to the enfeebled tissues underneath it; and with this view it should be changed every two hours or so.

Carbuncle is one of those diseases in which the aid of medicinal means is to be sought with benefit; such is my experience. The compress placed over it, having been gently wrung out of hot water, should be sprinkled with powdered camphor on the surface to be applied to the boil. The same may be done with linseed-meal poultice. I have even found a powder composed of five grains of camphor and three grains of hemlock powder, on each poultice or compress, of great benefit. It should be changed every three hours,

and when the carbuncle is open it should be washed at each change with warm water and glycerine; a tea-spoon of the latter to half a pint of water at 100°. Beyond this local treatment the less carbuncle is meddled with, the better. Those wonderful incisions in the shape of a cross which used to be made, and of which we used to be taught "the deeper they are, the better," have deservedly fallen into disuse, save by some obscure village surgeons who insist upon "vigorous measures" but who end by causing gangrene, vomiting, and stupor.

Regarding boils, which are the critical results of water treatment, it is only necessary to keep them moist with cold compresses as much as their position will allow. In themselves and for the time troublesome, they are carrying off other and more serious trouble, and will terminate when it is exhausted. Meantime, they seldom or never interfere with appetite, digestion, or sleep; in fact they generally increase the two former. The only thing which they spoil is the temper: ask no favour of a man who has water-boils.

The *diet* during an outbreak of boils will be regulated by the intensity of the inflammation and the facility of the suppuration: as also by the fever which it produces. If the boils are hard, slow to suppurate, purplish, it by no means follows that you should stimulate strongly, unless there be with these signs *no* signs of feverish disorder within, which is rarely the case. It

is better to give *small* quantities of beef tea with maccaroni or vermicelli in it two or three times a day, with farinaceous and fruity articles of food in the intervals; the fruits being fresh and ripe. If this causes no fever nor increased restlessness in the course of thirty-six hours, the diet may be strengthened to the amount of some solid animal food once a day and some liquid animal food twice a day, and so may be maintained until suppuration or solution of the inflammation takes place. When the boils come in rapid succession and suppurate rapidly and copiously, it is much more a case for strong diet than the preceding one, if the eruption has not considerably involved the brain and stomach; and it is in such cases that wine in regulated quantities is so often useful. The quantity of it must square with the amount of heat of skin and head and of thirst which it induces, and these signs must be observed. It is by no means necessary to administer alcoholic stimulants in *all* cases of boil disease of this character. Animal food taken twice a day is sufficient in the way of support and stimulation in a great number of instances; alcohol is not to be given, merely because there are boils; reference must be made constantly to the patient's sensations when he takes stimulants, and all circumspection must be practised. The same applies to the case of carbuncle; which, however, more commonly bears and requires the stimulus which alcohol affords,

and may, therefore, be subjected to that stimulus with more freedom than any other form of boil inflammation; the rather as it appears most ordinarily either in persons exhausted with mental trouble or mental work, and in old persons whose oil of life is failing. Strong broths and solid animal food are applicable in all cases of carbuncle. But the general and local treatment above indicated should strictly accompany this diet else fever and head symptoms may be generated.

The bowels may be evacuated by means of an enema of cold water and honey, or warm water with olive oil, every other day. This is more needed in slow, hard boils, than in those which rise and suppurate readily.

PART THIRD.

DISEASES OF A NERVOUS CHARACTER.

PERHAPS there is no term so frequently employed, and so confusedly understood by the employer of it, as the word "nervous." Some persist in believing that it refers only to a state of *mind*, which they consider weak, if not imbecile; and often have I been indignantly told by a strong-minded woman that "she was not nervous, because she had no fancies about things," at the very time when her clammy hand, quivering lip and tongue, together with a train of other symptoms, pointed beyond question to a highly nervous state of her *body*. Others again imagine that locomotive incapacity constitutes a nervous state: and others, that that state consists alone in the opposite extreme of restlessness and perpetual movement. All these opinions are right, and all, taken individually, are wrong. But tracing the different sensational conditions to their bodily source, they all involve some amount of disorder in the nervous tissue in its extremities, in its centres, or in both.

In all nervous disorders the brain and spine, and their prolongations over the body in the shape of nerves, are the organs specially implicated. As has been already stated, a *feverish* and *inflammatory* action may go on in the body without disturbing (at least to any such extent as to constitute a perceptible *symptom*) the brain and spine; but no malady of a *nervous* character can be present in which the brain and spine are not involved. And as inflammations in various other tissues may go on without involving the nervous, so the nervous tissue may be long and considerably deranged without producing inflammatory action elsewhere. Simple tremor of the hands and incurable insanity, the two extremes of nervous disorder, may persist for years without the exhibition of fever or inflammation.

Then comes the question; what is the precise state of the brain and spine and of the nerves proceeding thence, in nervous disorder? If by the precise is meant the *ultimate molecular* state, there is no answer to the question possible; for we know nothing of that state in any action, healthy or morbid. We are pretty sure, from the analogy of other tissues of the body, that some kind of disordered circulation of blood is present; it is passing either too rapidly or too slowly through the tissue in question. But if it passes too rapidly through the *whole* brain or spine, feverish action is sure to accompany. The

circulating condition most commonly existing in nervous states, is one wherein there is (looking to the past as well as the present history of the case) congestion or stagnation of blood in one part of the nervous system, which acts as an irritant to other parts of it. Thus a man shall have produced congestion of the lower part of the spine by excessive riding or walking: that congestion becomes a source of disorder to the remaining portion of the spinal cord, its function of sensation and locomotion is interfered with, and tremblings, lassitude, depression, &c., are the result. The same process from the upper portion of the animal nervous system, the brain, takes place when excessive intellectual operations or moral sensations draw excessive blood towards its tissue; it becomes a source of disorder to the spinal cord, and anything, from simple tremor to paralysis, may take place. The spinal cord, once thrown into disorder by such processes as the above, very generally exhibits some of that disorder in the interior organs to which it sends nerves; and palpitations of the heart, short breathing, irregular appetite, flatulence, all kinds of womb irritations, &c., may be exhibited.

On the other hand, it is certain that the irritation very often begins in the extremities of the nervous tissues distributed to the interior organs, and spreads by its nervous branches to the brain and spine. and in that manner causes

nervous disorder. That an indigestion will take a man's moral courage and mirth from him; that a chronic inflammation of the liver causes a chronic bad temper, whilst its congested state causes depression and somnolence; that tumult in the womb is the fertile cause of all kinds of tumult in the mind, the sensations, and movements—are facts most familiar to the layman as well as to the physician.

Hence it is important, when dealing with nervous conditions, to ascertain whether they commence in one central portion of the animal nervous system and tell upon another central portion, or whether the mischief begins in the elongated extremities of it called nerves, that are distributed to some internal organ. For if a man has fierce neuralgia of the face from stomach disorder, and you proceed to treat it as if it arose from brain or spine disorder alone, you would be losing time and gaining inveteracy of pain for the sufferer. A fomentation of the stomach would relieve the pain, when a long sitz bath, intended to relieve the head, would be of very little use. The previous history of the case alone can settle the origin of the nervous trouble.

A frequent source of nervous complaints has been very generally neglected—the skin. It has heretofore in these pages been mentioned how intimately bound to the brain and spine, by their nerves, is that vast and exposed surface. It is exposed to the most subtle agents

of atmospheric electricity and temperature, to the magnetic influences of the earth and air, and, I hesitate not to state, to the magnetic influences of other living beings, especially, of course, of our own *genus*. How does the well-known and well-abused east wind act to produce all manner of nervous miseries, save by its action on the nerves of the skin? How does damp and cloudy sky depress, and clear sunshine elate, save by the skin? How is it that crowds of human beings are excited, depressed, agitated in all ways, by agencies which would have no effect upon them individually, unless it be by the nervous atmosphere which surrounds each person and which, operating on his neighbour, explains so many sympathies and antipathies which are *not* based on reason or experience? Everyone possessed even of the most ordinary observation, has remarked on more or fewer of these circumstances; and if they would observe the state of the skin and the effect of soothing or tonic applications on it, at the same time, they would have no difficulty in fixing on the state of that surface as the immediate cause of their augmented suffering. To say that some of them are the result of "imagination," &c. (that very dull refuge of dull observers), is to say that it is the brain; but the question is, through what avenue did the influence reach the brain? The *skin* will supply the fullest answer.

A word as to the act of *habit* in nervous disorders should be uttered in these few general remarks. Recurrence under the influence of certain circumstances would seem to be one of the most characteristic attributes of nervous complaints, especially those of the painful kind. And so subtle and eccentric are some of the reproducing causes, that even the day of a month or the hour of a day seems to be sufficient reason for the return of the malady; giving to the speculations on starry and planetary influences more of a reasonable guise than they can obtain from any other events. Neuralgia and epilepsy offer wonderful instances of this attribute. And in those fevers and hæmorrhages which take on the habit of periodical recurrence there is always, as a preliminary, a nervous attack, of which the fever or the bleeding is the termination: witness the ordinary *intermittent or ague fever* and the periodical bleeding of *piles*, both of which have a purely nervous stage. The same with periodical eruptions of the skin, which are always preceded by intense itching or burning sensation on the spot (besides a general nervous disorder of sensation) to be subsequently inflamed and perhaps to secrete. The well-known small eruption on the inside of the right thigh just above the knee, of the First Napoleon, is an instance in point. For days before his nervous irritability and misery were intense; then came intense itching and redness

of the spot, which terminated so soon as he had violently scratched it until a few drops of blood came from it.

The periodicity of nervous complaints is always unfavourable to their cure. It would seem as if the attacks became one of the ordinary operations of the frame, as one of the usual exhibitions of its vitality; and so resisted change, as we know the really ordinary functions do. One thing is certain, that if you can once break the regular return of an attack; if you can convert a tertian into a quotidian ague; if you can put off an asthma or a neuralgia from the fifth of the month, its ordinary date of arrival, to the eighth or tenth, you may be much more sanguine of success than if it came with pertinacious regularity, though with perhaps diminished intensity, on the old date. For the rest, the records of medicine abound with curiosities on this head, and no one need be surprised at any oddities relating to it; they must hope for more irregularity and less method in the order of the malady.

Another peculiarity of nervous conditions is the power to throw themselves on some secreting surface, and to find relief by its secretions. I have already alluded to this fact in the general remarks on disease (p. 10), where the tendency of nervous states to find the relief in question by the kidneys is especially mentioned. But that channel is by no means invariable. A sudden outburst of sweat will often relieve a

neuralgic pain. Even the clammy hands and the flatulent distension of the bowels in hysterical states, although symptoms of those states, are a diversion to the irritation of the nervous centres, which would be much more gravely compromised if they were unable to transfer a portion of that irritation upon the skin and the lining membrane of the bowels. The brain, tense, and excited by sorrow or by joy to an hysterical degree, finds relief by the copious secretion of tears. Every one knows that the absence of tears in such circumstances occasionally begets alarming oppression of the brain; and that the more intense the moral sensation, in other words the more intense the irritation of the nervous centres, the less able they are so to relieve themselves. And this rule obtains in all nervous conditions, neuralgic, neuropathic, or mental. The most hopeless cases of insanity are those in which the patient never weeps, never has any unusual secretions from any surface or gland, and never takes cold, howsoever he may expose himself. As you hail the cessation of regular periodicity in intermittent nervous complaints, so also you may hail the coming of secretion from some great surface or gland in individual nervous attacks.

There is, however, a certain neuropathic state in which the patients are continually afraid of taking cold in the head and throat, and really have reason for it; for they do readily fall into that secretory disorder, though without fever.

They fidget immensely about it, and are those disagreeable persons who shut all windows and doors, to the disgust of the less nervous people around them. In such cases it is the eighth pair of nerves—that is, the nerves which travel from the base of the skull down through the chest to the stomach, and give numerous branches to the nostrils, face, and throat and lungs—which are specially affected; and I have almost invariably found the peculiarity in question connected with a previous history of a *stomach* which has been most cruelly abused by its possessor, who, on the other hand, has left his skin almost totally unstimulated, almost wholly ignorant of cold water and the reaction upon it. The reason why such a skin makes no resistance to temperature, and why the result is exhibited in the face, nose, and throat, will appear.

The great majority of nervous disorders which one meets with are chronic, growing at once out of some severe acute malady, such as a fever, or very gradually stealing on until they become fixtures. As I do not believe that it is possible to deal successfully with chronic maladies by domestic application of hydrotherapeutics, I shall only here offer suggestions regarding individual attacks or exasperations of such maladies. And hereupon I must avow my conviction, based upon prolonged experience, that in these attacks the means of homœopathic and allopathic treatment are ofttimes applicable, if to no other. The total

exclusion of some of the sedatives and stimulants comprehended in those methods cannot be justified in cases wherein the patient is frantic with pain or excitement, sinking from hysterical weakness, or suffocating with asthma or palpitation of the heart. Out of such intensely distressing, if not immediately dangerous states, the sufferer *must* be taken with all speed; and the physician who would allow his professional prejudices to prevent the employment of *any* remedies, even though they be homœopathic or hydrotherapeutic, in his patient's extremity of distress, is a shame and a disgrace to his high calling.

I shall speak first of nervous complaints in which *animal pain* is the predominant symptom.

NEURALGIA—TIC DOULOUREUX.

Nerve pain may have three sources. It may either proceed from the inflammation of the fibrous covering of a nerve at some point of its transit from its root in the spinal marrow to its ultimate distribution in some other tissue; or it may be caused by some standing irritation at the root of the nerve, in the spinal marrow, independent of disorder elsewhere; or finally it may be, as in the case just mentioned, the result of disorder at the spinal source, but that disorder dependent on sympathy with other organs.

The first case is not frequent. It constitutes

the majority of the instances of *one single attack*; the patient not having another for years, if ever again. It is, in fact, a purely local rheumatism of the fibrous sheath of the nerve, produced by a blast of cold applied specially to the pained region—which is almost always the face, the ear, or the sciatic nerve at the back of the thigh—from sitting on a damp or dry cold surface. The known application of such cold, and the certainty that nothing has been done which is likely to make the stomach or the womb the distant source of the mischief, are the grounds upon which it would be right to treat it at once as a purely local rheumatism; especially if neither the patient nor the patient's family are subject to tic-douloureux. The pained part should first be subjected to very hot fomentations, at 130°, for an hour or more; and this should be repeated after four hours, if still in pain. In the intervals cold compresses should be applied and changed every hour and a half. After each fomentation, and before applying the compress, it would be well to rub the part with two drachms of chloroform containing one drachm of extract of belladonna suspended in it, for three or four minutes; or if rubbing cannot be endured, place a piece of lint soaked in this medicament and put it over the pain, the cold compress being above it, and leave it there. In the case of neuralgic ear-ache this liniment should be rubbed in both behind and in front of the lobe of the ear, and even into the lobe itself. Homœopathic

practitioners prescribe *Rhus Toxicodendron* and *Arnica* in these cases, sometimes alternating these with *Belladonna*. A strong reaction effected at some distance from the pain—on the inside of the upper arm if it is face-ache or ear-ache, on the crupper bone of the spine if it is sciatica—by means of mustard plaister or lint soaked in equal parts of liquid hartshorn and camphorated spirit, will aid the above. Friction of the hands or feet in a small quantity of strong mustard and water for a quarter of an hour, will assist in the abolition of the pain and obviate its results upon the brain. If the pain is sufficient to generate feverishness, that must be met with packing in sheet or towels according to its degree: for if such a tumult as fever is set up, it will exasperate the local trouble *in this local and inflammatory neuralgia*. The diet should be mild, with a large proportion of vegetable articles in it, in order to avoid feverish symptoms. Altogether, a pure case of this sort of neuralgia is easily brought to an end. But after the pain has disappeared, it will be safe, during two or three days, to rub the pained region with the liniment for two minutes at bedtime; and to bathe it with cold water for two or three minutes every morning on rising.

In the second case, in which the source of the pain is in an irritation existing at the spinal root of the nerve without appreciable sympathy with the stomach or the womb, there is, for the most part, but little to be done either for the

chronic condition or the occasional acute exasperation. For in such instances there is reason to suspect obstinate congestion of or tendency to, if not commenced, destruction of the tissue of the spinal marrow at that point: or else chronic inflammation, with thickening, of the inclosing membranes of the marrow, or even of the bony canal itself in which the marrow lies. Previous violence done to the spinal column, it may be many years previously, is the most ordinary cause of this kind of tic: which is generally in the arms, behind the thighs, and in front of the lower legs. A distinctive sign of it is the simultaneous existence of pain in the spine itself, which is very rarely the fact in neuralgia from sympathy with other organs. Hence it will be seen that there are two points for local treatment, the nerve at its origin in the spine and at its neuralgic extremity.

The pained part of the spine should be packed with cold wet towels refreshed out of cold water every twenty or thirty minutes. Never apply *hot* water to the spine in such a case; it always exasperates the pain there. The cold application should be continued for two or three hours. Immediately after it the spine should be rubbed with a liniment similar to that recommended in the last-named case, for a quarter of an hour; and a cold compress then placed upon it, and refreshed every hour and a half. The pain in the limbs should be treated with *very hot* fomentations for an hour or more,

and also rubbed with the liniment. If these do not relieve the attack of tic, a cold sitz bath should be taken for twenty minutes, and the upper spine sponged with cold water during the first three or four minutes of it: much dry friction or a walk being practised to obtain reaction. Finally, I have seen an attack of this kind ended by sweating with a lamp for a quarter of an hour, with a cold shallow bath after it. During the hot part of the process a cold wet towel should be tied over the pained part of the spine, to obviate the immediate application of the heat to it. Upon the whole, however, it will be better to postpone the sweating process until the other means have failed. Although flushes of heat are apt to come all over the body for several hours together, and the pulse is rapid and sharp, packing is not found to be applicable in these instances of tic. The heat of skin is a nervous heat proceeding from the spine, analogous to that which a mental surprise might cause; and the pulse is quick because the nerves of the heart come from an irritated source. The febrifuge packing is therefore not needed.

Tic douloureux arising from the third cause mentioned, viz., the sympathy of the spine with some internal irritated organ, is by far the most common: in fact it may be said that eight-tenths of all cases of nerve pain have this origin. The internal organs whose disorder rouses the irritation of the spinal nerves are, also in eight out

of ten instances, the digestive and the uterine. The presenee of long worms in the small bowels, the presenee of small worms in the large and lowest bowel, the fulness of piles in the latter, may all beget tie in the limbs or face by acting on the spine; but these are comparatively rare cases, and they rather produce a ehronic sensitive-ness of the latter, which is exhibited by grumb-ling headache or toothache, clouded sight, odd smells, spasmodic cough, twitches of limbs, &c., than acute attacks of branches of partiular nerves constituting real neuralgia. On this account I shall seareely address myself to these causes and cases, but almost exclusively to the cases whose causes are to be found in the digestive organs and in the uterine organs.

And here I must dwell for a moment on the characteristics of the speeial spinal irritation which begets tic, because it is a common thing for medical men to deny that the spine is irritated at all, *unless there be sensitiveness when it is struck in its length, or unless there be pain in its tissue.** To which it may be replied that insanity is undoubtedly an instance of the most intense irritation of the brain, yet no one expects to find

* A short time ago I desired a lady who was tormented with a most incessant, hard, and dry cough, to consult a leading physician in London. I gave it as my opinion that the cough was connected with spinal irritation having an uterine, and partially also, a digestive source. My opinion was pooh-poohed by the physician *because there was no pain in the spine*; and acting on his opinion that "it was all weakness and poverty of blood," he ordered porter and stimulating diet, which exasperated the cough, and speedily led to the deposition of tubercles in the lungs.

the insane brain sensitive when the skull is struck, and it is known that headache is a *rare* symptom in insanity. In fact, a very common trick or impulse of insane people is to knock their skulls against walls, to produce, as it would seem, some irritation outside, to counteract that which causes their torment inside, the skull. And this is pretty nearly what takes place in *tic*. The spinal marrow receiving irritation from, we will say, the womb, radiates it to the branches and extremities of some of its nerves which go to the face or limbs: if it did not do so, the irritation would concentrate in itself and produce inflammation or some other disastrous form of disorder. Like so many other maladies, it is a mode of relief from worse evils which Nature chooses. And it is a curious fact that persons chronically affected with *tic* are almost all long-lived, and that the *tic* usually disappears some months before they die: it was evidently a rough relief to some important irritations within them. Again, except in the case of local inflammation of a nerve before treated of, it is impossible to conceive of neuralgia without the complicity of the spinal marrow, whence the nerves of sensation as well as of locomotion *all* originate. How else, except through the spinal marrow, can an irritation in the womb produce toothache, as so many pregnant women to their grief know? What connection is there between the suffering nerves of the womb and the suffering nerves of

the tooth, save by the intermedium of the spinal marrow, in which the origins of both of those nerves are to be found? It is to have a very coarse idea of the irritation of the most elaborate tissue in the body (the nervous tissue), to hold that such does not exist because thumping does not cause pain; and it is to deny the most important function of the spine, to hold that it is not the intermedium between the great organs of the body. The effects of remedial agents upon it disprove both these denials. The extraordinary circumstance is that the very class of persons who have all along made them are the same who introduced the section of the neuralgic nerve—an operation which proceeded on the supposition that the pained nerve was thereby isolated from its origin in the spinal marrow! Nevertheless it has never succeeded, because the source of the trouble in the interior organs has always been overlooked.

Keeping in view, then, the progress of irritation from the digestive organs or womb to the spinal marrow, and its transference thence to some of the external nerves, the points to be especially treated will readily be appreciated. Suppose a man who has indulged in eating and drinking in past years, and has contracted a chronic tic of the jaw or brow in consequence. He has, for years probably, taken all kinds of tonics, opiates, aperients, for it, and has by those means steadily inveterated it: for he has steadily

worried the nerves of his digestives with irritants. If he has an acute attack of the tic, I should advise him at once to foment the belly with cold wet towels for two hours, changing them every twenty minutes or so. Immediately after that, foment the belly with water at 120° for an hour; and after that, again, have the feet rubbed for twenty minutes in water at 60° with a table-spoon or two of mustard in it. The pained nerves themselves may be fomented with hot water at the same time that the stomach is. Cold water should be drank copiously, in doses of half a tumbler at a time. A cold compress on the bowels after the fomentation. If by these means the pain still persists after a couple of hours, the spine in all its length should be sponged with very hot water (105°) for three minutes and then, immediately, with very cold water for seven or eight minutes. Should the pain diminish little or none upon this, pack the whole body in a wet sheet for three quarters to one hour, and after it take a pail douche of four pails of cold water, with strong friction in the bath for five minutes, and long friction in drying with a sheet and then with a blanket. In three hours after this take a cold sitz for fifteen to thirty minutes, according to the time of the year and the patient's fulness of blood and animal heat. After this continue a sheet pack morning and afternoon, a long cold sitz at noon, and a hot fomentation of the belly for one hour at bed-time; and if there

be much disorder of mouth, another fomentation immediately after the pack and shallow bath in the morning. The compress on the belly in the intervals of the various processes: and water always drank freely—as much as a tumbler every hour.

This plan, it will be seen, applies its means to the digestives in the shape of cold and hot fomentations, general packing, and compresses; to the spinal irritation, in the shape of general packing also (soothing all the spinal nerves of the skin), of the revulsive effects of the prolonged shallow bath and friction, and the tonic as well as the derivative operation of the sitz bath: the water-drinking, meantime, diluting bad secretions in the stomach and acting tonically on its nerves.

But it not unfrequently happens that, besides the nervous irritation of the stomach proper, the other digestive organ, the liver, is congested; that blood is stagnating in it and proving an immense irritative to the nerves distributed to it. Such is almost invariably the case when the seat of the neuralgia is in the *sciatic nerve*, and in tic of the right arm or hand. In that case, after three or four packings and fomentations as above mentioned, a lamp sweat should be tried at noon instead of the sitz; or if the sitz gives relief for a time, the lamp may be taken immediately after it. And the lamp may be taken daily during the whole attack: continuing all the other measures. Local fomentations with hot or cold

water as is found most soothing (for nothing can exceed the caprice of the pained nerves as regards temperature), and local frictions with chloroform and belladonna, may be practised. Homœopathic remedies, too, abound, and should be employed in the manner recommended in the various works on their domestic application: they are constantly used with success. It would be well to relieve the bowels by a warm enema of soap and water and olive oil every day whilst the attack lasts.

As regards *diet* in an attack of neuralgia from the cause above indicated, the less food that is taken beyond bread and farinaceous things, and at the most some fowl, the better. The digestives supremely require rest from their function whilst they are thus delivering themselves from irritation which would materially injure them, if they could not throw it off upon more painful but less important nerves than their own. Those old-fashioned ethers and enormous doses of iron and quinine irreparably injure the vitality of the stomach, and put the brain in peril of apoplexy: and tic is a better bargain than either of those troubles.

The treatment above recited will apply to any case of neuralgia which is traceable to some nervous disorder of the digestives; and it is unnecessary to treat separately tic as it appears in various parts of the body. The reasons for the treatment being known, it will not be difficult to apply it in whatever nerve it may appear: and

I have already stated in which nerves digestive tic, so to call it, mostly rages.

Neuralgia connected with irritation of the womb apparatus is much more common than that last mentioned. In fact, whether it be from deteriorating constitution from birth, or from some wrong of physical education, uterine tic, in some shape or in some degree or other, is the rule rather than the exception in the women of our day between eighteen and thirty-five years. How few are the women between those ages who are not suffering from tic in one temple or the other, in the eye, at the top of the head, at the back of the head, in the loins, in the thighs, or in the soles of the feet: besides the toothache and stitches in the sides, flying, but occasionally fixed for several days in succession. The period immediately preceding or immediately succeeding the monthly illness is a favourite time for acute attacks of tic; not unfrequently they persist during the whole time of that illness; in other cases they are present only during the first two days, or, again, during the last two days. And the points of the compass, the barometer, the fatigue of mind or of body, are all capable of rousing an acute out of a chronic disorder.

In speaking of womb irritation I include the entire apparatus, especially the *ovaries* on each side, which play a most important part in this disease. I have very frequently seen the right temple in acute tic, and the ovary of that side,

tender if *very hardly* pressed. After some hours the pain would quit that temple for the left side, when straightway the left ovary, which had previously been inaccessible to any sensation on pressure, became so, and the right ceased to be so. The ovaries go far to account for the *side* neuralgia; whilst, when the body of the womb itself is the direct source of trouble, the crown of the head is the seat of acute pain.

It is difficult to fix precisely upon the phase of uterine irritation which begets neuralgia. It is better pointed out by negations. It may be attended by leucorrhœa, but is more frequently unattended by that symptom of chronic inflammation of the passage to the womb, the neck and mouth of the womb, or the interior of the womb. It may be attended with pain or bearing down, but is quite as frequently without those signals of congestion of the womb. It may be attended with excessive or with deficient menstrual secretion; so that it is evidently a state of the nerves of the womb not necessarily connected with too much blood in the organ. It would seem rather to be one of organic craving, the irritation of an organ in consequence of not performing its natural function. For, be it observed, that in the *very* great majority of instances of uterine tic, the patient is either a woman not married at the age when she would be able to fulfil her office of maternity, or it is a woman who, being married, is sterile. And every

medical man of large experience has seen all these neuralgic troubles to cease when the woman became a mother. Other causes than this may, of course, set up a nervous state of the womb productive of tic elsewhere: such as violent mental shocks, sudden stoppage of the monthly illness in its progress, a violent and painful miscarriage, drinking of strong coffee or of strong and very hot tea; but I am convinced from a very extensive experience that these exciting causes of the chronic uterine irritation in question are rare compared with the first-mentioned. And it is a dismal consideration that so much physical suffering should be so extensively inflicted, because a sordid and a snobbish view of the style into which young persons should launch when they commence wedded life deters thousands among both sexes from entering it, and fulfilling one of the earliest commands of their Creator. Be it understood, meantime, that this organic necessity of the uterine apparatus has a purely physical origin: the mind has nothing whatever to do with it. I have seen young persons suffering severely from it who were altogether ignorant of the existence of such a thing as a womb, or of its office.

These remarks were necessary for the purpose of laying bare the cause of the extreme obstinacy of cases of neuralgia of uterine origin. As is too well known to medical practitioners of all creeds of treatments, curative remedies are not often to be found, and palliative remedies are far too few.

Of the latter homœopathy can boast of the greatest number, and these should be employed as directed in the various publications. As regards hydrotherapeia, I will first suppose a case of acute tic of the temples occurring shortly after the menstrual period.

Let the hips and loins, down to half of the thighs, be packed in *double* wet towels for one hour. If they come off very hot, repeat the packing. After the single or double packing, take a sitz bath at 60° for fifteen to twenty minutes, applying a cold cloth to the head during it. Use much friction in drying, and, if able for it, walk about after the sitz. Lie down with a cold wet cloth under the back of the head, and change it every half hour or so. Exclude noise and light from the room, but admit abundance of air. After four hours, if not better, take a sitz bath again for twenty minutes, cold; and immediately after it have the feet rubbed in strong mustard and water at 90° for a quarter of an hour. Apply the cold to the head as before; and place another cold wet cloth under the lowest portion of the spine, and change it every half or three quarters of an hour. The foot bath should be repeated every two hours or so, and the sitz every four hours. Sometimes it is well during three or four minutes of the latter, to sponge the spine from the neck downwards. Bathing of the hands in hot water for five or six minutes at frequent intervals, aids the

above treatment. As constipation is a common fact in neuralgic women, although a severe headache is sometimes followed by diarrhoea, it would be well to relieve the bowels by means of an enema of a pint of cold water every day during the attack.

These measures will for the most part abbreviate an attack of tic of the temples, or, as it is usually called, *nervous headache*, connected with uterine irritation. That irritation itself is always going on, and, spite of all precautions with regard to exertion of mind or body, seems to accumulate until it brings on the acute neuralgia again. In some persons this takes place at the menstrual period, but in many more it has no fixed time for reappearance. Now and then one finds cases wherein the two points of irritation alternate the tic in a wonderful manner; the pain ceasing in the skull and suddenly appearing in the womb or ovary, which it will again quit for the head. These facts and the results of such water treatment as I have here advocated, place out of doubt the sympathies on which this form of neuralgia depends.

As the object of this work is to exhibit the treatment of acute conditions, I can only slightly allude to what should be done in the intervals between the attacks; so as to mitigate the number or the severity of them. Women liable to nervous uterine headache should sleep on a hard bed and in a cool room. They should immedi-

ately on rising sponge the nape of the neck well with cold water for two minutes, before rubbing the body all over with a wet sheet or sponging and rubbing in a sitz bath for two minutes. They should walk out before breakfast; this will fatigue at first, but a week will bring the habit without the distress. They should one day take a cold sitz for ten minutes, and the alternate day, a cold spinal wash for three minutes, at any time when a walk can be taken after it. They should sponge the nape of the neck again at bed-time. Although they should walk well between the monthly periods, they should rest during them, whether they be scanty or excessive. They should avoid hot liquids generally, especially coffee; also hot condiments, fatty articles, and alcoholic drinks; the quantity of animal food should be restricted, and it should only be taken once a day. They should not be in bed more than eight hours, and should rise as soon as they wake. They should occupy their minds with thoughtful or practical matters as much as possible. The result will be that, directing their nervous powers in the direction of the limbs and brain, dieting so as to keep the frame free from feverish excitement, and using measures to disperse any tendency to stagnant circulation which there may be in the region of the womb or in the region with which the womb especially sympathizes, viz., the nape of the neck and back of the head, there will be a gradual diminution of the intensity, the duration, and the

frequency of nervous headaches. All this demands patience and self-denial: but surely the torments of the chronic as well as the acute attacks of headachy women are worth the effort to practise these two virtues!

Women are subject to sharp or dull nerve-pain in the back, thighs, and lower legs. But these will be more appropriately mentioned under the head of uterine disorders.

ASTHMA.

The symptoms which constitute Asthma point to one great pair of nerves, which, from their extensive prevalence in important organs which they bind together in strong sympathies, might almost be called a *system* of nerves in themselves. This pair of nerves originates high up in the spine, very near to the brain proper; as it descends to the throat it gives branches to the face and to the organ of voice; it also sends numbers of branches to the exterior muscles of the chest which are used in respiration; the main trunks then descend into the chest; send numerous branches to the lungs and midriff (the great broad muscle which separates the chest from the belly), and finally ends by losing itself in the tissues of the stomach. Armed with this morsel of anatomical lore, the sufferer from asthma will not be so much puzzled to understand why

it is that something he has eaten will bring on an attack of asthma, and why coffee will often stay it; why his breathing is difficult, as the principal symptom of the attack; why the face is drawn, distressed, and anxious in expression. I think that I could tell an asthmatic sufferer from his countenance at any time, whether the acute fit was on or not. Essentially asthma consists in a chronic irritation at the root of these nerves in the spinal marrow. Whenever an irritating article of food is applied to the stomach; whenever an irritating quality of air is applied to the interior of the lungs; whenever a certain electric state of the atmosphere is applied to the nerves of the skin—from all or any of these points the irritation passes from the extremities to the root of the nerve in question, causes congestion of blood there with pressure; and in this way a partial palsy of the nerve takes place, and it is unable to send to the muscles of respiration the power by which they expand the chest; and, behold, an attack of asthma! The well-known fact that the most ordinary time for an attack of asthma is about two o'clock in the morning, and after a sound sleep, points to this congested condition; for in sleep and at that time of the twenty-four hours the circulation flags more than at any other period, and all organs which suffer from congestion labour under it more especially in these recited circumstances. Asthma might thus be correctly termed a *partial palsy of the*

eighth pair of nerves. There is always in asthmatic persons sufficient irritative disorder going on at the origin of the nerve to maintain an inordinate sensitiveness in its branches; and accordingly we find in such persons a readiness to stomach derangement, a most wonderful touchiness and capriciousness as to the air they breathe (the most opposite kinds of air being food or poison to the sufferers), and a refined appreciation of atmospheric changes present or shortly coming, which is sometimes not credited, and is laid to the charge of the imagination, when it is a melancholy fact to the sufferer.

Old pathologists divided asthma into *spasmodic*, or *dry*, and *humid*. The only difference between the two is, that in one there is no secretion from the air tubes, whilst in the other there is secretion. All asthmatic sufferers begin by having *dry* asthma; but as the lungs are subjected time after time to rude attacks, and the circulation through them becomes more and more obstructed, a permanent congested condition is established, and this congestion being augmented in the attack, the membranes of the air tubes in order to relieve themselves come at length to secrete in every fit of the disease, which is then *humid* asthma. It is doubtful whether in either of those there is *spasm*; but there is unquestionably want of muscular power to expand the chest and give free respiration.

The treatment of an asthmatic attack always

aims at the removal of the obstacle to the respiration, and this is always effected by some stimulant, applied to some of the branches of the eighth pair of nerves; to its branches in the stomach in the shape of strong coffee or strong tea, or some powerful medicinal stimulant: to its branches in the throat and nostrils and face, in the shape of some stimulating smoke, of tobacco, stramonium, camphor, &c. But the important branches of that nerve distributed to the exterior and muscles of the chest, have not usually been employed as a surface for remedies.

I am not prepared to advise sufferers from asthma to abandon their medicinal remedies when the fit is upon them: the distress is too great to give up an old palliative. Whether they be taken or not, it would be well to rub the chest and arms quickly with cold wet towels, laying especial stress upon the shoulder-blades and spinal column, which should be rubbed continuously for five or six minutes, after rubbing the chest for the same period of time. Dry with much friction, and if there be bronchial secretion (humid asthma), put a cold compress on the whole front of the chest and wear it during the whole attack, wetting it every two hours. The face should be bathed for two or three minutes with very hot water; and then, without drying it, it should be bathed, or rather splashed, with very cold water for the same time. Then treat the hands and half-way up the arms in the same manner, with alternate and hot

cold splashings. Continued, dry, friction of the spine from the nape of the neck to the waist, will aid these measures. So also will a stimulating plaster of linseed meal, twenty grains of cayenne pepper, and a drachm of powdered camphor mixed together with hot water, and placed over the pit of the stomach until it begins to sting pretty strongly. The hot and cold splashing of the face should be practised every hour or so; the cold rubbing of the chest every three or four hours, if the attacks last so long. If hot water cannot be obtained, let the splashings of the face and hands be effected with cold alone. The feet should be kept warm by dry heat, or by hot water and pepper baths taken for eight or ten minutes. If the attack continues for more than twenty-four or thirty hours a cold spinal washing of six minutes should be given, and be followed immediately by rubbing all over with a wet sheet for three minutes, provided the fit is not one of the humid kind, that is, with partial inflammation of, and much secretion from, the air tubes. If it *has* this character and is obstinate, pack the trunk in double towels for an hour (having the head very high), and rub with a dripping sheet after it. And repeat either this or the spinal wash and wet-sheet rubbing every four or six hours; using the applications to the face and hands, and dry frictions to the spine, in the intervals. Upon the whole, what is wanted is stimulation of the respiratory nerves by shocks

and frictions. The packing is only intended for long-standing asthma, or when from constitutional causes it has passed at an early date into the secreting phase.

It has been remarked that a *very* small portion of clear and viscid expectoration seems to put an end to an attack of the dry asthma. It frequently is so; and is an instance of the nerves throwing their irritation on a secreting surface to relieve their own distress, as heretofore mentioned; for although the muscular nerves of the lungs are partially paralysed in asthma, their very want of power is a source of difficulty and distress to the other nerves of those organs. This scanty secretion evidently comes from the minutest extremities of the air tubes, if not from the ultimate air cells, and is a very different matter from the copious secretion of the so-called humid asthma.

After all, the anxious aim should be to undermine the chronic source of these attacks in the intervals between them. My work on Chronic Disease treats of this.

HAY ASTHMA.

As regards the nervous apparatus involved, this malady resembles the last. In the symptoms there is this difference, that there is always more secreting activity of the nostrils, eyes, and throat,

and less of the air tubes, than in ordinary asthma. The fit of hay asthma is also accompanied (in consequence of this greater implication of the mucous membranes) with more fever, and hence has been often called *hay fever*. However, it is never very severe; it is the heat caused by intense distress of the nervous system, rather than the fever proper: it resembles very much the kind and amount of fever which is found in influenza. Hay asthma acknowledges fewer exciting causes than ordinary asthma; and, in fact, is commonly believed to be produced *only* by the inhalation of vegetable odours, especially of hay and flowers with the pollen in them. However, it is certain that it has occurred in mid-ocean, far out of the possibility of exhalations from fresh vegetation. It would appear to involve some salutary effort of the body, in some persons at least; for in a few cases in which I succeeded in arresting it, great distress of brain and nerves ensued, and when the attack was *anticipated* and prevented by treatment, the same distress, though to less extent, came on; and this for two successive years in early June: the third year there was no attempt to produce the symptoms of the disease.

The treatment is very simple, although somewhat startling in its application. Let the patient sit in a dry long bath, and shut his eyes. Let the attendant then dash, with a considerable degree of force, a pailful of cold water against the face, throat, and front chest; then a second,

third, and even a fourth: the last one being dashed on the back between the shoulder-blades. Then let the patient be well rubbed with a dripping sheet for three or four minutes; drink a tumbler of water and walk out for half to one hour. This process should be repeated morning, noon, and afternoon, when the stomach is empty. After each process the malady seems to have passed entirely away for two or three hours. Then come on again the constriction of chest, the "cayenne pepper in the nostrils" as I have often heard the sensation there described, the head-ache, depression, &c. This is the reason for the frequent application; and it is not until the third or fourth day that you can calculate on its being subdued. If the sleep is bad at night let the morning and noon douchings of the face and chest be preceded by a sitz bath for a quarter of an hour, and let a compress be placed on the upper stomach at bed-time.

The *diet* should be compact and nutritious—chiefly lean meat, bread, rice, and other farinaceous matters. Other articles than these are apt to involve the stomach in indigestion, and that exasperates the asthma. Alcoholic drinks ought to be avoided altogether in the attack.

Persons who are subject to this troublesome malady should in the intervals of the fits apply themselves to frequent lamp sweats and cold shallow bath after it, and to the falling douche; the former twice in every eight or ten days, the

latter two or three times a week. And these may be continued for a month at a time, then suspended, and recommenced for a month. Also, every day on rising, sponge the nape of the neck for a minute or two with cold water, over a basin.

PALPITATION OF THE HEART.

The hearts of some persons sympathize in a wonderful manner with other disturbed organs, just as the heads of other persons do; and a trifling irritation of the stomach exhibited in the shape of flatulence or acidity, or of the brain in mental excitements, will suddenly set it palpitating, with or without exertion of limbs, in an almost alarming manner. Placed between the brain and the stomach, an irritable heart has not much peace. Such a heart is infinitely more common in women than in men; and it is marvellous how some women can bear for weeks or months together the heart beating tumultuously against the ribs, occasionally at the rate of one hundred and twenty strokes in a minute. I have often had reason to think that the womb and its appendages maintained this sensitiveness of the heart by its action on the spinal cord which sends abundant nerves both to it and to the heart; so that when the brain or stomach was disturbed the heart was only too ready to receive impressions from either of them, and to react violently.

This is plainly the source of the trouble of the heart at the two extremities of woman's sexual life, the commencement and the cessation of the monthly illnesses. At the latter period it is occasionally so excessive as to lay the foundation of some organic disease of the heart. In men the almost invariable source of sympathetic irritation is the stomach—an irritation the result of alcohol in some shape, generally the spirituous. Tobacco-smokers come to have irritable hearts, but the heart is most irritable in them when their nerves are craving for the renewed stimulus of the leaf, showing plainly enough that it acts as a stimulus in the same sense in which alcohol does: their nerves depend upon it for support, just as those of the drunkard depend on his grog. Let reverend gentlemen of all denominations who denounce drinking, but smoke their pipes, ponder on this! There are other sensualities of men which, by exciting and then exhausting the nervous power, bring about irritable heart. During the process of *growth* the heart is often exceedingly irritable, and for the same reason that the stomach becomes disordered during that process (see p. 63). This should be observed and attended to: enlargement of the heart is readily formed in growing youth, if its muscular tissue is allowed to work excessively and long.

When there is no evidence that the stomach or the brain is the source of the trouble in a woman, the uterine apparatus may be fairly

accused of it; and the patient, if the monthly illness is not present, should immediately take a sitz bath. If she is in good flesh and blood this may be cold: but it should be at 70° if she is thin and in low condition of frame; and it should be continued for fifteen or twenty minutes; in fact, until the heart begins to quiet in its action. Dry with much friction, instead of walking after it. On coming out of it, rub the feet with mustard and water at 90° for five to eight minutes. The rubbing of the hands in the same way is also beneficial. If there be any decided pain over the womb or at the lower back at the same time, apply cold compress over one or both regions and change it every half hour or so. This simple treatment will generally stop an attack of bad nervous palpitation of the heart in two or three hours. It should be repeated every three hours if the tumult exceed that time. If the monthly illness is present at the time, lie down and have cold wet and thick-folded towels applied over the lowest stomach and the lowest back, and changed every twenty minutes if the illness is free, but every forty minutes if it is scanty. Do this for two hours. Sip a wine-glass of cold water every ten minutes during it. If the illness is scanty, take the mustard and water rubbing of the feet as above; but if it is free or excessive, rub all the legs quickly for four or five minutes with a cold wet towel, and dry with flannel. Whether the illness be present or not, it fre-

quently gives relief to apply a cold compress between the shoulder-blades, lying upon it; but it must not be allowed to become very hot, but should be changed, else it will increase the palpitation. Dry friction of the arms and legs, done slowly and monotonously, soothes the tumult. Of course exertion of body and of mind, even in talking, should be suspended.

Palpitation originating in the stomach should be treated as acute indigestion is treated. But those sudden disturbances which occur during the course of chronic indigestion are for the moment removed by cold foot baths of a few minutes' duration, cold hand baths, abundant splashing of the face with cold water, a wine-glass of very cold water swallowed every two minutes, and a cold compress to the pit of the stomach. The palpitation may be over before all this can be done; nevertheless it is better to do it all; it will prevent the return of the beating for some time.

When mental causes are inducing palpitation, first of all pack the belly with cold wet towels for an hour night and morning, changing the towel every twenty minutes. After the morning packing take a sitz at 60° for ten minutes, and rub with a dripping sheet for three minutes after it. At noon repeat the cold sitz bath for ten minutes, or for twenty minutes if the weather is warm. Cold mustard and water foot baths are useful in this case also. But none of the baths

should be taken so cold as to require strong walking after them; the object being to quiet rather than to excite the circulation in the nervous centres, and to carry off the irritation which those nerves are diffusing over the body, but specially in the direction of the heart.

Palpitation of the heart is one of those morbid states in which it may be sometimes permitted to take internal stimulants to obtain speedy relief. But I would warn persons, and especially women, that lavender drops and similar *steadiers* of the nerves are certain, if taken on every occasion of disturbed condition of the heart, to set up an action in the nerves of the stomach which will necessitate their employment in an increased ratio of frequency, and thus augment the disturbance they were intended to quell. It is safer to try what stimulants applied to the outer surface will do; at least before they have recourse to the internal means.

HYSTERICAL STATES OF NERVES.

The state of the heart just treated of is really an hysterical state. In times long past it was held that none but women were ever afflicted hysterically, and that all the strange weeping laughter and other involuntary muscular movements arose from the womb; and therefore they gave the state the name it still bears. In fact,

and in frequent fact too, men are just as liable to hysteria as women. Involuntary movements of all kinds are of necessity connected with some abnormal condition of the source whence they derive their locomotive nerves, and that source is, as in the case of the heart, the spinal marrow. As in the case of the heart also, the peculiar disorder of its vitality under which the spinal marrow labours on such occasions is derived from the interference of exactly the same organs, the womb, the stomach, and the brain. The ordinary action of the former of these organs in the production of hysterical phenomena through the intermedium of the spinal marrow, is too familiar to need description or comment; an hysterical woman is, alas! a too well-known sufferer. Boys passing into manhood suffer from the irritation of the cognate organs in their sex; and many an one is punished for face-making, twitching, contortions, and involuntary laughter, who is no more responsible for the improprieties than he is for his own existence. In grown men the ordinary source of irritation is the nerves of the stomach, driven thereto by the deleterious action of alcoholic stimulants, and, as I have copiously verified, by such excitants as cayenne pepper, and, among medicinal excitants, mercury in the shape of calomel and blue pill taken frequently for other conditions of stomach.

And here it is to be observed that in defining what constitute the symptoms of hysteria, these

are not limited to the most violent exhibition of them in spasmodic and convulsive movements, profuse weeping, and loud laughter. There is the hysterical condition of mind independent of these in which the man has lost his moral courage and hopefulness, in which all appears dark and full of pathos to him, in which fictions portraying states of human distress or deeds of human grandeur or wickedness are intolerable, and choke him with excess of feeling such as forms no part of his ordinary nature, and invades him spite of all moral efforts to control it—whilst he calls himself a fool for giving way to it; in which he rises in the morning to wretchedness of contemplation, and goes to his bed hating and fearing it. This is the kind of hysteria most seen in the male sex, and arising from stomach irritation. Some may call this mere mental disease; but it is found in numbers who have no moral causes of distress present or past, and in whom, therefore, the symptoms can only be attributed to the morbid operation of other organs upon the spinal marrow and the brain: the latter organ producing the volition, but the former being unable to execute it in consequence of such operation. More than this; the close observation of cases shows that when mental causes *have* operated in the production of hysterical conditions, those conditions will often continue for a long time after the moral causes have ceased, but when some disordered state of stomach or womb has

been established during the general nervous disturbance and still persists; showing that although the brain may have been the *first* affected, the *continuance* of the hysteria is due to the action of the stomach or womb upon the spine, as in all other instances of the malady.

In the treatment, therefore, of hysterical conditions, it is necessary to refer to their origin in the womb or in the stomach, and to the effect of this upon the animal nervous system. As in the case of the hysterical palpitating heart, stimulants applied to that system by the stomach certainly overcome the tumult in it. But, as in the same case also, these stimulants are sure, in the event, to become the masters of the nerves and to give peace to them or withdraw it as they are themselves taken or withheld; and instances of this kind must be familiar to everyone. Therefore it is that some applications which do not bring the nerves under this slavery because they are applied to the exterior of the body, are a desideratum.

If a woman is seized with involuntary and alternate weeping and laughter, with heaving and distressed breathing, the face should be shocked with large dashes of cold water, and at the same time the back of the head should be thoroughly wetted, and the nape of the neck rubbed with a frequently renewed cold wet towel. Having done this for three or four minutes, let her lie down, and let a very strong pressure

be made upon the chest in order to suspend the labouring respiration. Whilst doing this let the hands be rubbed in very cold water for five or eight minutes; and simultaneously with this, let the soles of the feet be rubbed with strong mustard and water. If it be possible to reach the belly, apply a cold wet thick-folded towel all over it. The persevering employment of these measures in succession will rarely fail to shorten an hysterical paroxysm. The pressure on the chest, stronger and heavier than the woman could bear in her ordinary state, gives the greatest relief to the breathing: whilst the various shocks given by the other processes disperse the disordered circulation in the spine upon which the morbid phenomena depend; as all the remedies are applied to nerves which take their immediate source in it. Stimulating odours may be applied to the nerves of the nostril with the same view: but I have not generally found them to be necessary.

Against that state in women which renders them at any moment liable to an hysterical fit—a state of moral and material sensitiveness, of dreads by day and dreams of horror by night, of ever-changing countenance, brimming eyes, cold clammy hands, fitfulness of movement, &c.—the employment of cold sitz baths two and three times a day is an almost unfailing remedy. The baths should be taken for ten minutes if the monthly illness is habitually free, but for

twenty minutes or more if it is habitually scanty. In the latter case there should be packing of the hips and loins every day, or every other day, for an hour before taking a sitz on rising. Women hysterically inclined should take frequent foot baths and hand baths of cold water for five minutes each. They should bathe the back of the head with cold water frequently. They should go to bed early and rise early. They should sit in the air as much as possible, but avoid much walking. They should keep their heads and their hands employed with practical matters, not with study which wearies the brain, or with music which vibrates on the feelings. They should abstain from hot liquids and stimulants in diet, but they should take nutritious animal diet twice in the day: for hysteria, like other nervous states, wastes the body.

Against the state of hysteria as it is found in men the application of cold fomentation over the belly on rising is desirable. It should be continued for an hour, and the towels changed every twenty minutes; a shallow bath for one minute following it. The packing should be practised every morning if the towels warm quickly: otherwise every other morning. At noon a cold sitz bath for a quarter of an hour should be taken; but if the bowels are free a cold spinal wash for six minutes may be taken instead of the sitz bath. If there be any dryness of mouth and furred tongue, fomentation of the upper stomach at bed-time with water

at 110° for half to three quarters of an hour will be useful. The *diet* should be dry and compact; composed of meat, bread, maccaroni, and excluding soups, succulent vegetables, fruits, and all articles which are more bulky than nutritious. If this injunction is strictly attended to, there will be rarely any necessity for alcoholic stimulants; but should there be *much* dyspeptic distress, a small wine-glass of dry sherry in half a tumbler of cold water may be taken at dinner, no malt or spirituous drinks being admissible: the nerves of the stomach may be gently stimulated, but the membrane must be defended from feverish action.

Growing boys who become hysterical from the act of growth, should be abundantly bathed with cold water every day on rising; and every day at noon they should have a cold sitz for ten minutes, the spine being sponged during the first two or three minutes of it. At bed-time the lower half of the trunk, the hips, and loins, should be sponged with cold water for a minute or two. Their *diet* should be full as regards animal food, which should be taken twice a day. They may take a tumbler of ale at dinner with advantage, but such stimulants as tea or coffee are bad; better to take milk. They should not exhaust their nervous strength by strong or prolonged exertion of limbs, or of mind in study; for the very reason of their condition is that the nervous system has fallen into morbid irritation in consequence of the vehement efforts it is called

upon to make in the progress of growth. The same reason applies in the case of hysteria at the age of puberty, which is a violent and exhausting revolution in the frame.

Perhaps my office in this work is rather to suggest than to warn. Yet whilst on the subject of that special condition of the nervous system which generates the symptoms of hysteria, in its slowly suffering as well as in its fiercely explosive shape, I cannot refrain from an allusion to, and a warning from, that fashion of alcoholic stimulation which has, of late years, taken possession of the ordinary medical treatment. If it had novelty in it, one would, as a medical practitioner, be bound to try it; for it is wicked—no less—and stupid moreover, in one who professes to have studied *all* methods for the relief of his employers, to pass over any plan because it squares not with his prejudices, or because it would give him trouble; but the plan of stimulation has been tried again and again since the time when tipsy Browne first introduced it nearly a century ago, and has always been abandoned after the *fashion* of it ceased. If it had success, it would not only be practised in paroxysms, but would, long ago, have established itself as *the* permanent plan of treatment for all diseases involving nervous irritability: but whether the stimulation come in the shape of whisky toddy, as it did under Browne; of port wine, in the early part of this century; of bitter ale, twenty years ago; or of rum and

milk, brandy and eggs, stout, champagne—*anything* containing alcohol and jumbled all together—as of late under the regime of Dr. Todd; in all or any of these forms there is not a record of success which at all justifies the wide-spread application of alcohol to maladies of the nervous system. And when it comes to pass that sufferers from these maladies, wearied with increasing rather than decreasing distress, at length abandon the stimulation of alcohol and seek that of water, *then* they discover how much time and how much vitality they have expended in the ridiculous attempt to make crutches do the office of flesh and bone legs, to make a cruel *spurring* of the jaded nerves do the office of rich and well elaborated blood, which can only be made out of animal and vegetable matters as Nature produces them. Let it be remembered, too, that the more the stomach is stimulated by alcohol, the less desire it has for blood-making food, and the less power of converting it into blood. It would be a hard task for any alcoholic practitioner to show that the bottle of brandy, the five or six bottles of port wine, even the dozen of ale, which he orders his nervous patient to consume in a week, contain materials for a single tea-spoon of blood after their elaboration in the stomach. If it be asked how such a system is accepted, the answer is that sickness is always ready to fly to a treatment which gives the least possible trouble, and requires the least possible exercise

of self-denial: which tallies with its usual prejudice on the subject of being "*supported, nourished, kept up*" (the ordinary phrases applied by ignorance to the process of the most rapid consumption of vital power); and, last not least, which saves the practitioner a world of trouble and intelligence which he would have to exert in the enlightenment of his patient, rather than in the yielding to his prejudice. But what shall be said of the dignity of a profession so exercised? *Du reste*, the baneful fashion will go out as it has repeatedly done before, and pass away after it has destroyed its thousands, like some plague sent by Providence to scourge mankind.

TEMPORARY CONSTIPATION OF THE BOWELS.

Of chronic constipation I have treated in the pages of my previous work on hydro-therapeia: and it will there be found that the torpor of the bowels may depend upon the non-secretion of matter within them, as well as upon the want of that sensitiveness of the nerves of the lower bowel which should enable them to feel the presence of matter and to put the muscles into action to expel it. Further, I showed that the want of secretion of matter was very often due to the want of blood whence it could be secreted: and that, in such case, the single symptom of constipation of the bowel was linked with a train of

morbid conditions in other organs. But when a person not subject to chronic constipation of the bowels suddenly finds their action diminish to the minimum, or stop altogether for several days, this can only arise from one of the two former causes named, viz., diminished secretion or diminished sensitiveness and expelling power. With the non-secretion from bloodlessness of the entire body we have nothing to do in temporary costiveness; when it arises from *that* cause, the costiveness is always and necessarily chronic.

Diminished secretion and diminished sensitiveness recognize the same source, namely, want of sufficient nervous power directed towards the particular organ which forms and expels the fæces, the large and lowest bowel. A due quantity of such power sent thither, not only secures the activity of the lining membrane, which pours out the fæces in a liquid form to be afterwards consolidated by absorption of the mucus in which the true faecal matter is suspended, but it likewise secures the activity of the muscular coat of the bowel. Not only so; the presence of a quantity of fæces in the lower gut, immensely supplied as that gut is with nerves connected with the spinal cord, excites the sympathy and even *irritates* the nerves of all the surrounding muscles of the outer belly, of the loins, and even of the midriff and other muscles of respiration, the contraction of all which, in consequence

of this sympathetic irritation, causes the expulsion of the fæces.

I have said that want of fæces and want of expelling sensitiveness have the same source. But they are not always simultaneously present. As is seen in all parts of the body, the nerves exhibit the nicest lines of demarcation in their maladies. And so, in the present instance, the nerves which control the secretion of fæces in the upper part of the colon or large bowel may be free in their function and able to induce secretion, whilst the nerves which preside over the sensitiveness and sympathies of the lowest gut, where the fæces ultimately lodge, may be torpid and unable to recognize the presence of the matter thus lodged.

Thus there may be costiveness with or without the presence of fæces in the lowest bowel. Fortunately, for the purposes of treatment it is not essential to discover which of these is the case. The object in both is to rouse the activity of the nerves which preside over the secretion and expulsion of the fæces.

How has that activity been diminished? By anything which produces excitement and attraction of blood towards other important organs of the body: by anything which concentrates vitality in the brain, in the stomach, in the liver, in the kidneys, in the womb, and so withdraws it from the large and lowest bowel. A man is suddenly plunged into anxiety or sorrow in the midst of

his smooth career: the brain straightway becomes the chief seat of his nervous activity, blood is drawn towards it in consequence, and it then acts as a constipator of the bowels, both by withdrawing vitality from the nerves of the bowels and by the pressure which the blood in its own tissue produces, preventing thereby the flow of nervous action towards those nerves. A man has indulged in good dinners for the last five or seven days, and then ceases to eat them; *then* he finds that he has concentrated the vitality of the digestive canal in the upper part of it, and the nerves of the stomach and liver are in a state of irritation, whilst those of the lower part of the canal are in a state of torpor. A man has exposed his skin to excessive and prolonged cold, to cast wind especially, and has thus thrown all the function of transudation from the skin upon the kidneys; or he has excited an irritation in the kidneys by the use of spirituous liquors which act specially upon those organs: in both cases the more irritated the kidneys are the less so the bowels are, in secretion. For this reason dry winter weather causes excessive micturition, but also costiveness. Finally, if a woman receiving a mental shock which passes rapidly from the mind but remains in the womb, which continues to be achy, bearing down, &c., she will have a fit of constipation of the bowels. If such a shock, or cold, applied to the legs and feet, shall have suddenly checked

the monthly illness, this result will be still more apt to ensue. On the other hand, it is well known how women who have excessive menstruation have likewise great costiveness during the illness. The irritation or inflammation which produces *whites*, as the discharge is called, is a common cause of costiveness. In all these instances it is the same process in action, the withdrawal of the natural nervous activity from the nerves of the lower bowel to those which are so copiously supplied to the womb.

From what precedes, the first aim of treatment should plainly be to diminish the excessive vitality or irritation which exists in the brain, upper digestive organs, kidneys, or womb; and the second aim to rouse the activity of the nerves of the large and lowest bowel. Generally, in the temporary costiveness of which we are speaking, the reduction of the irritation in the organs just mentioned suffices: the equilibrium of nervous circulation is re-established, and the bowels act without measures to stimulate their nerves. However, it may be well to employ both in some cases.

If the costiveness is connected with mental distress or over-activity of the brain from any cause, the belly should be packed with a thick-folded wet towel three times, for twenty minutes each time, before rising in the morning: after which wet the head well with cold water and then take a shallow bath at 60° or 65° for two

minutes after it; for where the brain is distressed or overtaxed, strong shocks from absolutely cold water *all over the frame* are not desirable. The patient should drink a tumbler of water, and walk for half an hour after this process. At noon and again in the afternoon, when the stomach is empty, let him take a cold sitz bath, if it be warm weather, for half an hour; if it be cold weather it should be brought up to 60°. Drink a tumbler of water, and walk after each bath for half to three quarters of an hour. After each of these baths wear a compress on the upper stomach for two hours, not longer, lest it produce sinking at the pit of the stomach. After each sitz bath it would be well to rub the feet in the water of them for five or eight minutes: or in mustard and cold water if they are very cold. The *diet* should be mild, lest feverish irritation of the stomach should be added to the brain irritation—a very likely complication. It should consist of *white* animal food, farinaceous and fruity articles, but not preserved food in any shape. Coffee is bad, and milk doubtful: weak cocoa and tea are the best beverages. If the brain has been *intellectually taxed* rather than *morally pained*, a wine glass or two of claret in double the quantity of cold water at dinner will sometimes be useful, if the patient is not of full habit of body. In moral distress wine is *always* deleterious. In constipation from this cause *great* exertion

of limb is not proper; there is no greater error than to suppose that, because the brain is wearied and irritated by labour or feeling, it can be restored by exerting its volition strongly on the limbs: this only further wearies it. Exercise of limbs to obtain reaction after the baths, is all that is required. It is needless to add that exertion of brain is to be avoided as much as possible. Three or four days of the treatment will generally suffice to commence the restoration of the action of the bowels, which usually returns gradually.

If acute stomach and liver disorder is the cause of the costiveness there is sure to be some feverish irritation of those organs mingled with it, as the tongue and thirst and loss of appetite will tell. In such cases, therefore, it is desirable to pack in a wet sheet for one hour before rising, and to follow it with a cold shallow bath for three or four minutes. Drink a tumbler of water whilst dressing, and three or four others whilst walking for an hour or more after the baths. At noon and in the afternoon take a cold sitz bath for half an hour each time: drink two or three tumblers of water after each, and walk for an hour at least. At bed-time foment the belly with water at 120° for thirty to forty minutes, changing the flannel every four or five minutes. The stomach compress to be worn all day, wetting it afresh every three hours. The *diet* to include a very small quantity of animal food—one mutton chop at

dinner, for instance, whilst the quantity of vegetable articles is to be increased; green vegetables being desirable, as well as farinaceous. Upon the whole, however, the food should be much restricted as to quantity, inasmuch as the constipation is the result of an irritated and fatigued stomach, and not of wasted nervous power, as in the last instance. The large water-drinking and long walks recommended, are for the purpose of combating the tendency to congestion in the liver and other solid organs implicated in the process of digestion. The whole process should be continued daily until the bowels act, which time is not likely to exceed two or three days. It is the repetition of temporary acute constipation of the bowels, as repeatedly removed by purgative medicines, which eventually establishes the chronic form both of indigestion and costiveness: *Verbum sapienti*.

In the case of external chill causing excessive action of the kidneys with diminished action of the bowels, the treatment should point to the re-establishment of the secretory activity of the skin. If there be no fever of the digestive organs and no headache, this should be attempted by at once taking a lamp vapour bath one day and a lamp sweat without vapour the next day, on rising: with a shallow bath at 60° after either for two minutes; the vapour to continue for twenty to thirty minutes altogether, and the lamp for fifteen minutes after the skin is fairly moist with per-

spiration. Drink a tumbler of water whilst sweating, another after the shallow bath, and a walk for an hour. At bed-time foment the belly with water at 120° for three quarters of an hour. The compress on the bowels is doubtful in its benefit, unless there be internal fever, as it increases the secretion from the kidneys. And the cold sitz bath is not admissible for the same reason; but a sitz at 95° for a quarter of an hour at noon will be useful. Altogether, this is the kind of treatment of the costiveness which so often invades the bowels in intense or prolonged frosty weather, and in the harsh, unrelenting, and desiccating east winds of the British spring—the “jocund spring,” as poets facetiously call it.

But if there is fever of mouth and stomach in these cases of external chill, it will be necessary to deviate from the plan just indicated by packing in a wet sheet or in wet towels for one hour on rising, with a shallow bath at 65° after it; walking for half or three quarters of an hour. At noon the vapour or dry lamp bath as above directed, and fomentation of bowels at bed-time. It will not be necessary to pursue this treatment more than three or four days before the bowels recover their action. But as fits of costiveness from the cause now under consideration generally take place in prolonged frosty or east-windy weather, it would be well, whilst either of these continues, to sweat with the lamp twice a week or so, and pack in the sheet once a week, on rising; measures which

will tend to keep the skin in condition to resist the disturbing influence of the atmosphere.

When constipation follows an abuse of spirituous drinks there is always fever of stomach and liver, as well as excessive action of the kidneys. The sheet packing in the morning, the lamp at noon, and the fomentation at bed-time will therefore be requisite, as in the last-named instance. Here, too, the compress can be applied beneficially, because there is feverish action in the stomach and liver to counteract, which action sympathizes with and maintains that going on in the kidneys. It may be well to mention, as the result of my observation of patients, that gin, brandy, and rum are the most likely to cause costiveness, in the order in which they are mentioned, and that whisky does this in a much less degree. There is an old notion that port wine constipates by virtue of some astringent matter in it. This may be the case when the *wine* is made chiefly of decoction of logwood, as is believed to be too often the fact; but what is *always* the fact is, that, whether the wine be made in Portugal or in Britain, it contains a large quantity of brandy, and generally of the worst description; and I believe that it is the action of this brandy on the liver and kidneys which constitutes the binding effect of port wine. Let those who take port wine as an astringent to the excessive secretion of the bowels or of the womb think of this: they are only

transferring irritation from one internal surface to another.

The costiveness which attends certain disordered states of the womb apparatus will be more conveniently mentioned under the head of those states.

I trust that I have made it clear how much temporary costiveness is a withdrawal of vital activity from one portion of the nervous system to another, under the influence of certain irritants. In this view the question between the ordinary purgative medicines and the external treatment advocated in these pages, may be put in this manner:—Given the defect of nervous and secreting power in the lower bowel, will the drug, which by its irritating effect *forces* that bowel to secrete, and so rouses the nerves and muscles to expel what has been secreted, leave the vitality of that bowel so unimpaired by its action that it shall continue to secrete and expel after the specific operation of the drug has past? The *invariable* fact answers in the negative to this question: the bowel *never* continues to secrete, but gives evidence of the pressure which has been put upon its vitality by relapsing into more obstinate torpor and constipation than before, and thus the *habit* of costiveness comes to be established. Not only so; inasmuch as the remedy has been applied to the effect instead of the cause of the costiveness, that cause remains untouched: and this is another reason why cos-

tiveness is never *cured* by purgative medicines. They can neither strengthen an over-taxed brain, nor diminish the nervous irritation of an over-worked stomach, nor subdue the over-activity of kidneys which are doing the secreting office of the skin, as well as their own. All they can do is for a brief period to irritate the torpid nerves of the lower bowel, whilst the hydro-therapeutic treatment, in every case, addresses itself to the *cause*, and *only* to the cause, in some other organ, which has withdrawn the vitality from the lower bowel: and as the cause is removed, the vital activity flows back, spontaneously as it were, to the points whence it had been transferred, and once returned thither it *continues* there, because it has not been factitiously but naturally restored.

PART FOURTH.

DISEASES OF THE WOMB.

IN my work on the Water Cure in Chronic Disease I did not refer to maladies of the womb, having at the time when I first wrote it the intention to deal with that subject in a separate treatise. Never having been able to produce this, I purpose in the present pages to speak of some uterine disorders both of the chronic and acute kind.

In treating of the womb complaints, it must always be remembered that the functions of the womb are additional to those functions by which the individual is preserved. Until an age, varying in these climates from twelve to sixteen years, the womb has no specific function, and has no sympathies with the other great internal organs. The object of Nature in this is sufficiently clear; the life of the individual must attain a certain degree of strength and consolidation before any part of it is liable to be expended in the production of another individual. The signal of having arrived at this point is the appearance

of the monthly illness, which by some has been supposed to be nothing more than the tumult on the rejection of an unimpregnated egg from the womb.

When this monthly process is being established, and still more when it is completely established, the importance of this additional function of the body, the propagation of the species, becomes apparent enough by the sympathies which the apparatus of the womb establishes with other organs. The exhibition of these in the growth of the external frame need only just be mentioned: these changes are fixed in two or three years at the most. But the sympathies of the womb with the internal organs, especially the brain, the spinal marrow, the heart, and the stomach, remain through the following thirty to thirty-five years, and play a most important part in woman's physical and mental health.

This is not the place to dwell at any length on the physiological history of the womb apparatus. Its sympathies with other organs chiefly concern us when speaking of its maladies and their treatment; and certain points of that history will fall into the account of its individual diseases. Meantime, it is necessary to mention that the sympathy of the womb is, under ordinary circumstances, of the kind which in another portion of this work I have spoken of as an organic sympathy—a sympathy between the tissues of the two sympathizing organs, and not necessarily

attended with animal pain. Even a woman's monthly discharge, if healthily enacted, is devoid of pain, although it may produce at the time much nervous disturbance of more or fewer organs. It is wonderful to behold how much nervous misery without pain this organ, the womb, is capable of producing, from mere lachrymose depression, up to the height of frenzied insanity and down to the depths of moping melancholy. It is this species of sympathy which obtains in hysterical disorders, and which may so far irritate the spinal marrow and brain as to cause the most violent convulsions of the limbs and terminate in palsy of some limbs, without a particle of pain being felt either in the womb or the spine. I would have the reader dwell on this, as it bears much upon what I have to say of treatment hereafter.

But the womb apparatus is very prone to excite the most *painful* sympathies also, with or without sense of pain in its own tissue. As I have explained in another place, it produces the slightest as well as the most violent forms of neuralgia, especially that of the face and scalp, named face-ache and nervous headache. Pains in the loins and legs, and in the soles of the feet, are all products of the uterine irritation playing on the spinal marrow which sends nerves to these different points. The points of the spine, however, which are most frequently and most obstinately implicated in the sympathy we

are now speaking of are the lowest portion and the highest portion within the skull. Within the skull, at the back part of it, and connected by nervous tissue to the brain proper on the one hand and to the spinal marrow on the other, is the cerebellum or smaller brain, which, among other functions, presides over the organs intended for the preservation of the species. With these organs the cerebellum has the most acute sympathies; and to its irritation from that source is due a great amount of pain, distress, and incapacity in women. Keeping in view this strong action of the womb on the spinal marrow, cerebellum, and brain, it will not be difficult to account for the mental confusion and brain giddiness, the "ball in the throat" of hysteria, the toothache, and the vomiting of pregnancy, the nervous cough and palpitation of the heart during and before the monthly illness, the sudden secretion and rumbling in the bowels of large volumes of air, the sudden secretion and voiding of large quantities of urine from the kidneys; all the parts in which these morbid phenomena appear, as well as the womb, being largely supplied with spinal nerves.

As the womb apparatus is thus largely supplied with sensitive nerves, it is, of course, liable to suffer acute pain in its own tissue, as well as to arouse it in that of others. All shades of pain occur in the womb and ovaries, from the dull, heavy kind to the most spasmodic and lancinat-

ing kind. A curious though frequent fact is the transfer of pain from the womb to the upper spine and cerebellum and back again, one part being at perfect ease whilst the other is in torment. I have seen this transfer upwards and downwards take place three or four times in a day.

This brief outline of the sympathies of the uterine apparatus with others will be found useful towards the understanding of the symptoms of the individual disorders of that apparatus, and the reason for their several treatments. But before closing these general statements, I desire to pronounce an opinion on a mode of treatment, applied to the womb of late years, which has become as common as it is detrimental, and detrimental because it is too common. I allude to the application of remedies, mostly of a highly stimulating and caustic character, directly to the womb by means of a hollow tube called a *speculum*, introduced into the passage to the womb. In the outset this application was made specially for the purpose of converting an ulcerated surface of the womb into a burnt surface: the analogy of external sores justifying the treatment as regards the sore, but being insufficient as regards the bad state of general health which begets and perpetuates sores. For, if you heal a sore on the leg by burning it, and doing nothing for the bad general health which produced it, it will certainly break out again. But this practice of womb-burning was

relied upon exclusively for ulcerations of the mouth and neck of the womb. In process of time this local treatment came to be so much sought by women, that it was quickly discovered by doctors to apply to all kinds of maladies that attach to their sex, as well as those which they have in common with the male sex. I have known one of these professors of this local treatment look into a woman's relaxed throat and declare it had a womb origin, and that she must have the womb burned with caustic for six weeks. Then it was found that *most* women had ulceration of the womb, and at all ages, from sixteen to sixty years. Nothing so easy as to frighten women on the score of the womb—of the womb which they could not see, although the doctor could. Accordingly there is good ground to believe that this fear in women has been acted upon and employed for sordid ends; that ulceration has been pronounced to be present where it never was; and, worst of all, that this local treatment has been applied to girls of eighteen and twenty years of age!

That cases of real ulceration of the mouth and neck of the womb occur, in which the application of caustics directly to those points considerably aids the healing results of a general treatment of the body, cannot be denied. But that ulceration is found in *one-tenth* of the cases in which the speculum and caustics are employed, is strongly denied by some of the most widely experienced

practitioners in the special field of women's diseases. They deny, as I do, that such applications are *ever* required or justifiable, save in such real cases of ulceration: they maintain that ulceration is *never* found in unmarried women under the age of thirty-five, and rarely until ten years later; and that of the maladies which afflict married women, ulceration is the *least* frequent. They maintain, as I do, that all the other disordered conditions of the womb, in inflammation, in congestion, in nervous irritation, in misplacement of it, the local irritation engendered by these operations is *actually prejudicial and exasperates these several conditions*. They maintain, as I do, that the local irritation thus engendered arouses an irritation in the nervous centres, in the brain and spinal marrow, which leads to the most afflicting mental and physical phenomena, to incessant contemplation of every trifling sensation, to intellectual confusion and moral perversion bordering on insanity if not actually within its limits, to physical restlessness combined with physical incapacity of the most miserable kind, to paroxysms of fever, to the most capricious appetite for food and the inability to digest it, to wasting of the entire frame. All this I have seen in hundreds of cases. In hundreds of cases when a patient has related symptoms of this kind, I have said, "You have had caustic treatment of the womb," and not once in twenty times have I been wrong in my conjecture. The symptoms are unmis-

takable, and they constitute a really new malady not mentioned in the ordinary comprehensive works on disease hitherto published. Symptoms *exactly* resembling them are not found from any other cause. The usual report is that the patient consulted Dr. ——— for bad sleep or headache or indigestion, never thinking that she had disease of the womb; “that he insisted upon a speculum examination; that he pronounced the existence of ulcers which would require to be touched with caustic three times a week for six, eight, or twelve weeks; that after her money and her patience were expended, and she expressed a resolution to go home, she was assured that the ulceration was completely healed,” but that her nervous wretchedness has dated from that time. This is the most common report. Sometimes another operation has been added to the burning, if the patient’s money and long-suffering are extensive. She is told that the womb is bent forward or backward, and an instrument is introduced into the neck and interior of the womb for the purpose of *forcibly twisting* it and holding it in another position—a process which I strongly maintain never brought a womb into its exact position or made it straight, since the creation of woman. For either the womb is congested with blood, and its whole body falls in one direction or another out of the vertical, or its neck is so nervously irritable that contraction of its tissue takes place, giving a bend to the neck in

one direction or other: in either case, does any-one believe that the presence of a steel or silver instrument *forced* into the womb, which is then *forced into, and forcibly held in*, a certain position for days or weeks, is calculated either to reduce the quantity of blood in the whole body of the womb or the quantity of nervous irritation in its neck? The *only* result it can have is to *increase* the quantity of both.

Then again, the mouth and neck of the womb is deeply scarified with a lancet, and whilst the wounds are fresh they are all burnt with caustic. Leeches also are applied to the womb with a recklessness which implies a belief that the organ has no organic sensation in itself, and no sympathies with other organs; yet I have seen a woman who had a fit of delirium, of two or three days' duration each time, after every one of four applications of leeches. It does not seem to occur to the prescriber that a leech-bite on the skin is a very irritating thing, especially on the day after it has healed, and may be irritating to the womb also. And as for the withdrawal of blood by their means, let it be remembered that they draw blood *towards* a part if they draw blood *from* it; formerly they used to leech a black eye, until some one remarked that it made it blacker. In short, all sorts of devices and new operations are invented to keep alive this most objectionable method of treating womb complaints; objectionable because unneces-

sary in a great majority of the cases in which it is employed, objectionable because it exasperates that majority of cases, and objectionable because it renders familiar to a woman that sort of investigation which should never be made except as a last resource, and the frequency of which breaks down a barrier of delicacy which it should be the care of every one to preserve.*

No excuse is necessary for the introduction of this subject into a work which aims to advise non-professional persons regarding the least harmful and the most effectual mode of dealing with

* One or two out of a great number of instances will suffice to show the slipshod, if not the dishonest manner, in which this sort of local treatment is practised. The wife of a half-pay officer, with small means and four children, is detained in London for five months; caustics being applied three times a week, and fees to the amount of seventy guineas taken. As the doctor was himself leaving town she was at length permitted to go also; and she came to me not one jot better for her expenditure of time and coin. I found nothing but ordinary congestion of the womb, and advised her to go home and take frequent cold sitz baths, which enabled her to walk in the course of three months. I am firmly convinced that the patient never had ulceration of womb, and that she was the victim of a most unworthy deception. All that she received from the doctor was a shower of religious tracts.

A lady has a miscarriage at two months, followed by bearing down, in consequence of too early walking after it. The speculum doctor examines, shakes his head dismally, announces extensive ulceration of the womb and the necessity for local applications for six weeks. As the patient's home was in Edinburgh, her husband took her thither at once, as the head quarters of that treatment. Examined there, she is told that no ulceration whatever exists, that she has ordinary congestion of the womb, and that she only requires cold sitz baths: which cured her in four or five weeks. I know a case in which the entire neck of the womb was burned away—not a vestige of it remaining; and the patient transformed into an incurable neuropathic sufferer. I saw her only a week before the burnings began, and she had no more ulceration of the womb than she had glanders or any other very rare disease. It would be well if practitioners would record cases of this kind of ignorance or knavery, or both.

uterine disorders. The method upon which I have been animadverting is, in my firm conviction and according to my extended experience, the least effectual and the most harmful treatment; and when employed in the indiscriminate manner in which it so frequently is, the most disgusting and immoral proceeding. Parents who permit such treatment to be applied to their daughters incur a heavy responsibility, both as regards the physical health and the moral purity of their children.

RETARDED MENSTRUAL DISCHARGE.

The monthly discharge may be said to be retarded when it fails to commence at the age which is usual in this climate. It may also be said to be retarded when at any future time it fails to appear at the end of each month from the date of its last appearance. In the former case there is some constitutional cause at work, which should be inquired into. The girl may have had a suffering childhood from repeated sickness, which has interfered with blood-making and the process of growth dependent on it; in which case the natural effort of the body to pass from childhood to womanhood cannot be made, and is necessarily and beneficially postponed. If, in consequence of this, she shows the signs of bloodlessness, emaciation, coldness and feeble circulation, defective appetite, breathlessness, and locomotive

weakness, without the possibility of fixing upon any one organ as the focus of irritation ; the most prominent remedy is the negative one of *rest*, rest from bodily and mental exertion, with abundance of air taken without exertion of limbs. The object of this is to avoid waste ; but the attempt should also be made to augment the food-taking and blood-making powers of the body, by tonic hydrotherapeutic appliances of a kind which do not require to be followed by exercise of the limbs.

For this purpose friction of the whole body with a wet sheet for two minutes should be practised every morning, a couple of hours or more after breakfast, followed by assiduous rubbing with a dry blanket. If the body is exceedingly thin and cold, it may be rubbed in parts, with wet towels : first the trunk and arms, and then the legs and feet ; having the portion which is not undergoing friction well covered meantime. In the afternoon, three hours after eating, a spinal washing should be administered, the water applied during the first two minutes being at 90° , and at 60° during the next two minutes ; using abundant dry friction after it. This should be immediately succeeded by a foot bath at 80° , with mustard in it, rubbing for five minutes in the water, and for five minutes after it with a blanket. The above will be as much as the patient can bear during the first three weeks. But it should be kept in mind that the object is to apply *tonic* remedies, and therefore that the degree and duration of cold should be

regulated by the patient's power of reacting on it, which will be readily ascertained by her sensations of increasing comfort, and by the increasing and enduring redness of the skin. As these augment, the wetness of the rubbing sheet should be greater, and the water used in the spinal washing and the foot baths should be gradually reduced to cold. When this point has been attained, a pail douche should be given on rising, composed of one pail at 80° and one pail cold, followed by much friction. Then, at noon a sitz bath should be tried, at 70° for ten minutes; and as the reactive power increases this should be reduced to 60° , at which point the first two minutes of the sitz may be occupied in sponging the upper portion of the spinal column with the water that is in it. In the afternoon, a spinal washing at 60° for three minutes should be practised. All this time as much dry friction as possible all over the body should be applied, with shampooing of the thighs and legs and loins; measures which all tend to rouse activity of the nerves which preside over appetite and digestion. If the patient will bear in mind that a gradual—it matters not how gradual—increase of tonic applications from water at 90° to cold water, from the party-rubbing with wet towels to a cold pail douche, from tepid to cold sitz baths, is the advancement to be aimed at, she will never fail to recover appetite, digestion, blood-making, and blood-circulation. It may require much patience to drill the body into this regular and

healthy action of its component organs ; but if that patience is forthcoming, and if it insures the *very careful graduation* of the water processes, it will assuredly reward the patient with re-established health. Once these important functions are in good play. Nature will direct the vital irritation towards the womb. But in order to aid her in this process, the sitz baths should be taken twice a day, and should gradually be prolonged to twenty minutes each ; and it will be well to sponge the spine during the first four minutes of each bath. Until there is blood enough in the body, it is useless to give long sitz baths for the purpose of drawing it in any direction.

The bowels are usually very torpid in this case of retarded menstruation ; but they may be left alone for a week together if they are so obstinate. There being little blood in the body, there can be but little secretion from it. Still, it will be well to administer an enema of a pint of cold water every three days or so, not only to remove whatever there may be in the lower bowel, but to stimulate the nerves of the womb, and draw some of the newly-formed blood towards it and the other contiguous parts.

Occasionally, however, the bowels fall suddenly into a state of diarrhœa for a day or two, in this kind of retarded menstruation ; and sometimes at or near the monthly date. This may be some attempt of Nature to rouse the activity of the nerves and secretions of the organs within the

pelvis, which fails as regards the womb, but succeeds in the lower bowel. Whether the blood-making process is in full activity or not, these fits of diarrhœa should not be encouraged; for they not only reduce the condition of the body generally, but they also tend to set up in the lower bowel a secretory activity which makes a diversion from that of the womb, where you desire to establish it. They should be met by injections of very cold water morning and evening, of six or eight ounces each, not more: adding two grains of *tannin* to each enema. And even although the frame be in an emaciated state, a cold sitz bath of three minutes may be taken with advantage two or three times in the day. This need not interfere with the general treatment recommended; it is an accident, not an incident, and rarely persists for more than two or three days. I do not like this occasional diarrhœa, having observed that the cases of retarded menstruation in which such attacks occur are generally the most difficult to overcome; the reason for which will be obvious from what has been above remarked.

In retarded menstruation from previous bad health and bloodlessness, the *diet* should be, as may be readily supposed, of the nutritious kind. Yet here too the same careful graduation of stimulation, which I have recommended to be applied externally, should be applied internally. Reference must be constantly made not only to the appetite which *may* be craving, although it is generally

defective, but to the sensations produced on the taking of aliment. If the appetite be very small, it is clearly useless, and usually harmful, to tax the stomach with any but the most diminutive quantities of food at one time; it matters not how little, so that it does not cause distress: it then helps the patient vastly more than four times the quantity which oppresses. The frequency with which it may be given must be a matter of pure experiment, and the patient, measuring her sensations, can dictate it better than any one else. As regards the *quality* of the aliment, that is subject to much variation. In the nervous, non-inflammatory state of the stomach which obtains in this malady and which is so characterized by capriciousness of sensation, the most concentrated food, such as flesh meat, will often give less pain and dyspeptic distress than farinaceous and other milder articles of diet: and when this is the case, it is, of course, desirable that small doses of it should be frequently given; say, an ounce three or four times a day, with or without bread or boiled maccaroni. But this may be all wrong for some days, and the stomach will only thankfully accept vegetable matters, which will then, of course, be the order of the diet. And such, in fact, is sometimes the order throughout the whole malady in certain cases; the patient never being able to take animal food until, by means of vegetable food and improved digestion, she has obtained blood, flesh, and force enough to take free exercise on foot

or on horseback. The patient therefore must watch herself in the matter of diet and digestive sensations, always bearing in mind that the latter are the directors of the former, and that *quantity* of nutriment has to do with what is comfortably digested, infinitely more than with what is swallowed. The beverage of these patients is important. Having no medical *prejudices*, though having strong medical *convictions* founded on experience alone, I cannot refrain from stating that I have seen benefit derived, in the case I am now upon, from certain alcoholic stimulants. I have seen a glass of champagne wine enable a girl to take a moderate meal of animal food without distress, when she suffered much when it was withheld. I have seen the same with regard to bottled ale and porter. Whether it is the carbonic acid gas or the alcohol, or the precise combination of the two in these effervescing liquids, which causes them to agree, I know not; but I never saw the same benefit come from the use of *still* wines, and least of all from spirits and the heavy spirituous wines of Spain and Portugal, as they are found in this country. Coffee is invariably harmful to girls having retarded menstruation with emaciation. Cocoa boiled with milk and water, or warm milk alone, are the best breakfast beverages. Butter and oleaginous matters often agree; and they are useful for animal heat and the chemical consumption of the body.

The bodily exercise must be proportioned to the activity of nutrition. Once that blood-making follows upon appetite for food, active exercise aids both, if the brain and spine be not *too much* worked in the process; so that in this part of the management of the patient also, the very gradual augmentation of exertion must go with that of food-taking. Driving in a carriage or riding on horseback should be the first kinds of exertion, if these are practicable. If not, the patient should have very much dry friction and shampooing of the body, and should be exposed much in the air, seated and warmly clothed.

If I have been lengthy in my remarks and directions on this state of retarded menstruation, it is because the condition is one upon which the well-being, it may be the life, of the patient hereafter hinges. At this period and under these circumstances are often laid the foundations of mortal mischief in the lungs, in the heart, in the brain so as to affect the mind, and in the womb itself. All these organs suffer because certain sympathies fail to operate upon them and invigorate their vitality at the period of existence appointed for the evolution of those sympathies—the sympathies of the generative system. Further, I have dealt on the subject in order that I might impress upon the reader and the patient the fact that the evolution in question may be effected by hydro-therapeutical and other hygienic means alone, avoiding those medicinal means which

are given with the avowed purpose of exciting and irritating the nerves of the womb on the one hand, and of affording to the blood one of the least copious of its ingredients on the other, when it is *all* the ingredients that are wanted and can only be obtained from alimentary substances. In this I allude to the administration of aloetic and other purgatives, and of preparations of iron; which is the standing and venerable practice of ages, and the total inefficiency, if not harmfulness of which, might, one would imagine, have compelled the medical mind to the search of some more certain and less irritating plan of treatment. Better to do nothing than have recourse to those failures.

The *retardation or suspension of the menstrual discharge after it has been established* as a function of the body has several phases and several causes. It may occur in a *full-blooded woman*, and be the result of cold applied to the feet, legs or loins, or of some strong mental shock. It may occur in a *woman of low vitality*, and be the result of some irritation which has been set up in some important organ, and which operates as a counteragent to the usual action of the womb. It may occur in a *woman whose digestive and blood-making powers are so oppressed and diminished* as to render the body unable to fulfil this function of menstruation,

which is *additional*, be it always remembered, to those functions by which the individual is maintained.

When a woman in full health suddenly has the menstrual discharge checked whilst it is still present, the consequences may be very distressing and not unfrequently dangerous. For not only is this function of the womb very essential to the well-being of the other functions of a woman in such health, but the transfer of the irritation of which it is the exhibitant is a serious burden to any other function, whose organ is already in full, healthy activity also. The transfer acts as a shock to such organ, and brings inevitable tumult into its operations. This tumult it seeks to relieve by some unusual discharge from its own tissue, or by throwing its irritation upon some other organ. As might be expected, the brain and spinal marrow, as the largest accumulation of nervous tissue, are the most frequent recipients of the transferred irritation from the womb, intimately connected as they are with that organ by their nerves. Accordingly giddiness, confusion of ideas, intense headache, all or any of the symptoms which make up *hysteria*, and even convulsions and apopleetic pressure, may take place. Sometimes the brain is spared (being, probably, a constitutionally very strong one) and the spinal marrow is the only sufferer: in which case palpitations of the heart, bleeding from the lungs, retching and vomiting, copious

discharges of urine from the kidneys, and enormous secretion of gases in the bowels, will be the signals of distress. In some, fortunately more rare instances, there is little or none of these extended tumults of the body, but from the moment of the stoppage there is a fixed pain in one or other of the ovaries, sharp for a week or two, then gradually more dull and fitful. The woman considers that she has got well over the accident with so little general disturbance. Yet these are the cases in which the mischief, concentrated in an ovary, tends to prolonged disturbance of the menstrual function in future months; and more than this, they are the cases in which after months or even years a tumour of the ovary is discovered, and is incurable. Irritation not finding vent through the general nervous system and divers secreting surfaces, has fixed itself in this appendage of the womb with sufficient intensity to alter its structure.

This account of the process by which the menstrual stoppage disorders a full-blooded woman, will suffice to show the imperative necessity for re-establishing as speedily as may be the secreting function of the uterine apparatus. Palliative measures may be employed to ease some of the troubles in the brain, spine, chest, or limbs; but the chief aim is to renew the functional activity of the womb, and this should be attempted *at once*, whether there be suffering, general and local, or not. The trunk, from the lower edge

of the ribs to half way down the thighs, should be packed in cold wet towels for an hour and a half; a cold cloth being applied to the head and frequently refreshed. As the feet are generally cold, a hot bottle should be applied to them during the packing. On coming out of the packing, a sitz bath at 100° , for twenty to thirty minutes, should be taken. During the last three minutes of this bath, have the upper half of the spine sponged with cold water. Even immediately after this the feet should be rubbed for a quarter of an hour in water at 96° with two table-spoons of mustard in it. After this apply a cold compress to the lowest half of the bowels, and change it every four hours. The foot bath should be applied every three or four hours. If there be much local pain of the womb the lower stomach should be fomented at bed-time for three quarters of an hour with water at 120° . But if there be little of such pain, but strong symptoms of irregular circulation and fulness of the head, a sitz bath at 80° for twenty minutes will be preferable at bed-time. These are the means which should be applied *from the moment when the discharge ceases*; and if so, they will often cause its restoration. But should they fail to restore it after a trial of two or three days, or should the suppression have dated from many days or a week before, when the body has in some degree settled down from the nervous tumult, the treatment should be as follows:—

Pack the whole body in a wet sheet for an hour or an hour and a quarter early in the morning; a cold cloth to the head during that time. A shallow bath at 60° for three minutes after it. Drink a large tumbler of water, and walk for twenty or thirty minutes briskly. At noon take a sitz bath at 55° for twenty minutes; sponge the spine during the first four or five minutes of it. Drink a tumbler of water for half to three quarters of an hour. In the afternoon, when the stomach is empty, repeat the sitz bath, water drinking, and walk as at noon. At bed-time foment the lowest stomach for half an hour with water at 110° , changing the flannel every three or four minutes. A cold compress to be worn on the lowest stomach all day, changing it three times in the day; and a compress to the lowest back all night. If no remarkable pain of the womb or lower back persists, or if the head is not much disordered, either in the direction of giddiness and oppression and heavy aching, or in that of hysterical symptoms in the chest, heart, or limbs, the above treatment may be continued steadily until the period for the next menstrual illness arrives. The only exception to this rule will be the case of the body not warming speedily and fully in the wet sheet; then the sheet packing should be abandoned, and towel packing of the hips and loins substituted. But if pain of the lowest stomach or back, or of both, persists after a week of the above treatment, it will be

well to try the effect of a lamp sweating at noon instead of the sitz bath. The heat should be applied very gradually, and the head kept cool with wet cloths during the whole process. A shallow bath at 60° for three minutes after it, with much splashing and friction of the back during it. This process may be repeated the next day. Then omit it for two days, and take the sitz for twenty minutes instead; renewing the lamp for two successive days after this. The object of the lamp herein is to operate against the *congestion* of the womb, which there is good ground to believe is being established when the pain of the lowest back and front of the trunk continues after a fortnight or more of retention of the illness and of the treatment applied for it.

If the head is heavy, afflicted with *dull* aching and frequent giddiness, the packing of the hips and loins with towels in the early morning may be continued; but at noon one day the lamp sweat and shallow bath at 60° should be taken, and on the alternate noon a cold shower bath for two or three minutes on the back should be given. If a shower bath is not practicable, a cold spinal wash for four to five minutes may take its place. The cold sitz in the afternoon should be continued. The fomentation of the lowest stomach at bed-time should be discontinued, and a sitz bath at 60° for a quarter of an hour substituted. The compresses to be still worn as before. Cold mustard and water foot

baths, with brisk friction in them for eight or ten minutes, will always be appropriate in this state of disorder; and they may be taken at any time of day, especially just after a sitz bath, for the relief of the head sensations. This alteration of treatment is necessary, because the head has passed into a state of *congestion* after the acute disorder of circulation which obtained immediately upon the cessation of the menstrual discharge.

If hysterical palpitations of the heart, hysterical acts of respiration, convulsive movements of the limbs, and other signs of hysterical disorder of the brain and spinal marrow persist, although the distressing sensations in the lower trunk have ceased, the packing of the lower trunk should be discontinued: so also should the hot fomentations to that region at bed-time. A pail douche composed of three or four pails of water at 60° , should be taken over the shoulders and back on rising, with friction all over for two minutes. At noon a cold shower bath for two or three minutes on the back, or a cold spinal wash for five minutes; or, better still if attainable, a falling douche for two minutes on the hips and legs and half a minute or so on the lowest back should be administered. A cold sitz bath for a quarter of an hour in the afternoon. All this tonic treatment is necessary because the spinal marrow is in the excitable yet weak state which originates hysterical con-

ditions. For the rest, reference may be made to the portion of this work which treats of those conditions.

Having thus treated, *firstly*, of the intermediate applications which are to be made in the case of interrupted and suspended menstruation in full-blooded women; *secondly*, of the treatment when the symptoms about the womb apparatus persist; *thirdly*, of the treatment when the first excitement of the brain has passed into congestion; and *fourthly*, of the treatment when that excitement has passed into the hysterical irritation and weakness—it remains to speak of the *diet* and the physical *exercise* which are appropriate in these circumstances.

When the stoppage first takes place it is better to give the digestive organs as little as possible to do; all the organs are in confusion, and it is little likely that food can be properly converted at such a time. Moreover, the body is in full state of blood and nerve, and can get on without stimulating aliment. Accordingly, nothing but cold drinks of a farinaceous or fruity kind, cool tea, boiled vegetables, and, perhaps, small quantities of white animal food are necessary; and these should not be changed for stronger food until the condition of the brain in the tumult is well ascertained to be that which does *not* imply apoplectic presence. When the first tumult of the brain has become *congestion*, stronger food in the shape of fresh meat may be taken; but

it should be taken carefully and with minute inspection of the effect on the head, whether it causes the *dull* pain there to become more *acute*, whether the giddiness affects the limbs more, whether there be increased irritability of temper, &c.: these will always be signals for the reduction of stimulation in the articles of diet. When the hysterical symptoms persist and predominate during the suppression, waste is going on rapidly, and it becomes necessary and therefore less hazardous to administer strong animal food in the shape of brown meats. It may even be proper to give a glass of champagne wine in a tumbler of cold water at dinner, but only under the circumstances of cold flabby surface and icy feet. But in all cases it is better to avoid large quantities of liquid: for in the present state of the nervous system it is likely either to remain in the stomach unabsorbed, or to be dissevered into its gaseous elements and produce flatulent distress. In all these cases, also, it should be remembered that the body is *not* in low condition of health, and that suspension of the discharge arises from a transfer of irritative action of the womb apparatus, and not from want of blood; and upon this a cautious alimentation should be based. The high feeding and the *low* dram-drinking which are so widely considered to be essential in *all* instances of suppressed menstruation, and which have become traditional among so many of the sex which suffers, and so many

of the sex which treats, that condition, render a warning on this subject of imperative necessity.

When the first tumult of suppressed menstruation is past, the exertion of the limbs is necessary, provided that the signs of congestion of the womb do not predominate; viz., pain and bearing down in the back and front of the lower region of the trunk. In that case walking, and especially standing, should be avoided as much as possible, and much frietion and kneading of the limbs substituted for exercise. But if congestion of the head or hysterical symptoms prevail, walking and riding exercise are desirable, especially the latter; a ride on horseback for two hours, or two walks in the day, of half an hour each, will aid the treatment. It should be added that in full-blooded women regular, if not prolonged, exercise of limbs is absolutely necessary if they would avert the suppression of the menstrual discharge from slight causes. There is a sensitiveness which attends over-fullness as well as a low state of the body; in which when causes of disorder are applied to an organ the reaction is so violent as speedily to involve the whole frame in its own tumult, each organ of that frame being equally sensitive. This is what happens in a full-blooded and indolent woman when the womb is arrested in its office by damp feet; the secreting irritation of the womb, being stopped by the cold, is thrown violently upon other organs. Now if both the womb and those

other organs were kept in a state of subdued sensitiveness by wasting the blood and nervous power in the act of steady, daily exercise, instead of allowing these to accumulate in idleness, the whole machinery would be less liable to fall into disorder from such causes.

The next instance of suppressed menstruation is that which occurs in a *woman already in a state of low vitality*, in whom a strong irritation of some important organ has been set up, that irritation counteracting and arresting the menstrual function of the womb.

Two great organs are exclusively the originators of this kind of suppression: the brain and the lungs.

Anxiety, sorrow, mental trouble in all forms, constitute the conditions of the brain which operate to interfere with the uterine office of menstruation. They constipate the womb in the same manner in which they were shown to constipate the bowels; they cause an undue quantity of the body's vitality to be centred in the brain to the detriment of other important organs, especially the upper digestive organs, the bowels, and the womb. Hence the low state of vital activity of those organs, and the waste of the body generally. From time to time, however, the irritation going on in the brain is transferred in greater or less degree to some of the above-named organs, and a sudden fit of eccentric hunger for some, to the patient, extravagant

articles of food, ham and cucumbers, or cheese and porter, &c., will come on for two or three days. At other times a fit of diarrhœa for the same period will occur. At other times again, profuse leucorrhœa (whites) will exhibit this capricious transfer. In any of these instances there is always better sleep by night and less restlessness by day during the time the attack continues; for the time being the brain has been partially relieved. In this manner women go on for years, suffering all that nervous wretchedness and sense of incapacity and pains of head can inflict upon them. It is marvellous how they contrive and continue to perform social offices whilst mind and body are alike in the torment of ceaseless unrest; but the fact is an every day certainty to observing medical men. And thus they go on until one of three things happens—the womb becomes diseased in structure, want of nutrition of all the body extinguishes its life gradually, or the organs become accustomed by habit to the suppression of the menstrual secretion, and the woman ceases to suffer to the same extent physically, although the mind may still be troubled. If she arrives at this alternative, she may even grow fat; but she never becomes strong.

In such cases of scanty or suppressed menstruation we have to deal with causes which are rarely to be removed by any art, medical or other. All that can be effected is to place the body in the

best position for resisting the harmful influence which the brain, in a state of irritation, is exercising over it. Unfortunately it happens that the same irritation of the brain forbids the employment of any but the most cautious applications to the skin, since shocks upon that surface of necessity are transmitted to the brain through the spinal nerves. The following are the processes which may be advantageously tried: they will at least tend to ward off the other two terminations above mentioned.

In the morning let two pails of water at 95° be poured over the shoulders, whilst sitting in a dry shallow bath. Let the patient immediately after this stand up, or sit on a chair, and let the body be well rubbed all over—the trunk and arms first, the legs and feet afterwards—with cold wet towels *well* wrung out of water; the whole rubbing to occupy three or four minutes. Much friction to be used in drying. If the strength of limbs allows it, a walk for twenty minutes after this is desirable; if not, the dry friction should be prolonged to five or six minutes. At noon a sitz bath at 80° for ten or twelve minutes should be taken; and much dry friction should again be used. Immediately after the sitz bath have the feet rubbed in strong salt and water or mustard and water for five to eight minutes, at 70° , and considerably rubbed afterwards. Every other day, in the afternoon, sponge the spine in all its length with water at

100° for three minutes; and immediately after this rub the spine up and down gently with a wet towel, well wrung out of cold water. On the alternate afternoon have the foot bath, as above described. Every other night, at bed-time, foment the whole bowels with water at 110° for half an hour, changing the flannels every three minutes. This plan will suffice to keep the skin active, to give tone to and draw blood towards the womb, and to act as a diversion from the head. It should be pursued until any improvement in the colour of the skin, and any increased circulation and warmth in the limbs, leads to the conclusion that the nervous influence is being more equally diffused. Then the temperature of the applications may be very cautiously reduced by two or three degrees every two or three days. In frequent instances I have contrived to bring enfeebled emaciated women who suffered in this manner to bear the coldest processes, and even the falling douche on the limbs, by a very cautious and patient diminution of temperature. If capricious hunger comes on, it should be seized as an opportunity for giving *proper* aliment to the body, such as fresh meat, abundance of bread, &c., but need not otherwise be treated unless there be painful sinking and cramp at the pit of the stomach, when the cold compress should be placed over that region for two or three hours at a time, twice or thrice in the day. If diarrhoea suddenly supervenes, the sitz bath and the spinal washing should

be stopped, and the rest of the treatment continued; and if there is much pain of belly accompanying it, fomentation of the bowels with water at 120° for thirty or forty minutes at bed-time may be used. The same may be employed if the looseness continues so long or profuse as evidently to debilitate the patient; and in that case may be added a sitz bath at 60° for three minutes once or twice a day. If a sudden increase of *whites* from the womb takes place, omit the sitz at 80° , and continue all the rest; but if the discharge persists copiously for a week or so, the sitz at 60° for three minutes should be taken twice in the day, as in the case of diarrhœa. In short, these several and sudden transfers of irritation from the nervous tissue to the mucous surfaces represent efforts of the former to relieve itself, and the attempt to deal with them should only be for the purpose of moderating them, when there exists no doubt that they are becoming a source of weakness to the frame. The leucorrhœa is one of the most favourable signs, because it indicates a natural effort for relief through an organ, the suspension of whose secreting function is the most disturbing to the entire body, and most likely to end in structural mischief in itself. A womb which is not performing its functions, is much more liable to fall into organic change than one which is performing them.

Only a very moderate amount of physical exertion is desirable in these cases of suspended menstruation from causes in the brain and nerves.

The brain is already too active, and the strong or prolonged exertion of volition would only increase its activity. Passive exercise by driving in a carriage, or long sittings in the open air if the weather permits, are the preferable exposures of the body out of doors. The same reason to be found in the state of the brain and nervous system, applies still more emphatically against the strong or prolonged exercise of the mental faculties. Only such purely practical employment of the mind as can withdraw it from painful contemplations, and only such matter of fact reading as can be found in travels and histories, and can be read without mental discussion or moral disturbance, should occupy the women who suffer from this chronic malady. To seek other than these is to feed the moral cause which originated the trouble.

The other instance of suppressed menstruation from the excessive irritation of another organ, is that of chronic but intense disease in the lungs. Every one is acquainted with the fact that in pulmonary consumption this suppression takes place, and even at an early period of the fatal malady, before any cavity can be detected in the lungs. Besides this, it occurs before emaciation has commenced, and therefore before the suspension can be attributed to want of blood in the body. And in the more advanced stages of pulmonary consumption, a great quantity of food is frequently consumed and a great quantity

of blood elaborated; yet still there is no menstrual discharge. This then can only be due to the excessive activity of life in the lungs, and its withdrawal from the uterine apparatus. The suspension in question is mostly found in the *tubercular* inflammation and destruction of the lungs, but it is also liable to occur in ordinary intense inflammation of the spongy substance of those organs. When in the course of pulmonary consumption diarrhœa comes on, the frequency of the cough and the quantity of the expectoration diminish; both augmenting again when the diarrhœa ceases. This is another instance of transferred irritation, analogous to that by virtue of which the monthly discharge is arrested in the case of lung disease.

I have mentioned this instance of menstrual disorder, rather for the purpose of rendering the subject complete, than from any hope of suggesting remedies for it. The very fact of suppression indicates an amount of disorder in the lung against which all remedies have as yet failed, when all the additional symptoms leave no doubt as to the tuberculous character of it. In the work wherein I treat of water appliances in tubercular consumption, those appliances may be ascertained. They relieve much of the physical misery of the different stages of consumption; but none of them have the least power in restoring the monthly discharge. In fact, in the few cases wherein that discharge occurs at irregular

periods of the fatal malady, the journey to the tomb is considerably hastened.

The third cause of retarded and suppressed menstruation is *impaired blood-making power*, owing to defective digestion and assimilation of food. The immediate condition of this defect is congestion of the circulating blood in the organs of the belly, which exhibits a tumid, doughy, insensible surface to the sight and the touch. As in all instances of such congestion, there are two physiological states present—the blood-vessels of the organs in the belly have lost tone and cannot pass on their blood; and the presence of this unusual quantity of blood proves an irritation to the nerves which pervade the belly, so as to render the functions of secretion laborious. Here begins the interference with the process of conversion of food into good rich blood. The nerves of the stomach and liver, at once oppressed and irritated by the stagnation of blood in their tissues, and in the other tissues constituting those organs, are only capable of defective elaboration of the food submitted to them; and those ingredients of the blood which are the most fitted for the strong nutrition of tissues, and therefore require the best digestion in the stomach, fail to be produced. In process of time the better parts of the blood are wasted in the ordinary progress of life, whilst they are not being renewed by the digestive organs. By this double action of waste and non-renewal, the

blood of the whole body at length comes to be deprived of its red and richest particles, and a liquid circulates in it, which is only serous and watery, and altogether unfit to nourish the tissues as they ought to be nourished. Least of all is it fitted to nourish such important tissues as those of the nervous system and the muscular system.

The above is the process by which a rosy-faced woman is converted into a lemon-faced woman, and is said to have *green-sickness*: a tinge of green frequently mingling, in certain incidencies of light, with the yellow of the skin. The skin is yellow for the same reason that the skin of a corpse is yellow, because no red blood circulates in it. It is cold, and can bear no cold, for the same reason; as well as for another to be told presently. The brain and spine, imperfectly nourished, deteriorate in their power of controlling and directing other organs. Hence the loss of muscular activity, save under vehement and exhausting stimulation; for it is a curious fact, that a girl in green-sickness can enact a waltz or galop with perfect *éclat*, when she cannot walk upstairs without immense toil of legs and gasping for breath. The muscles, meantime, being imperfectly nourished, are unable to make those contractions which indicate vigour of life in them. For this cause, as well as for the imperfect supply of nervous power from the brain and spine, the muscles of respiration labour,

and the breathlessness of green-sick women is thus explained. So also the brain and spinal marrow are unable to send the quantity and quality of nervous power to the skin, which shall enable it to resist and react upon cold, electric, and other atmospheric agencies. Then the heart beats tumultuously, often without exertion of the limbs. This is due partly to the irritability which all weak organs exhibit; blood stagnating in them, and its presence rendering their nerves highly sensitive. But it is also due to the same law of stagnation applied to the brain and spinal marrow; the blood congesting in those organs, near to the important point at which they join, presses upon the roots of the nerves which go to the face, to the throat, to the heart, and to the stomach, and becomes a source of irritation to them. Hence, besides the irritable state of the heart alluded to, green-sick women are subject to neuralgic headache, to face-ache and toothache, to irritable swallowing throat, to short dry cough, and to the strangest dietetic fancies for lemon juice, for chalk and slate-pencil, for burned fat, raw roots of all kinds, &c.

If these indications of defective blood are afforded by the organs of sensation and locomotion, those of a similar state of blood are not wanting in the organs of secretion. Deficient and disordered urine, perfectly inactive skin, obstinate constipation of bowels, and lastly, sup-

pressed menstrual discharge, all point to this want of properly-compounded blood as well as a morbid supply of nervous influence. Yet in all the organs which minister to these secretions the same tendency to stagnation, with its usual results upon their functions, may be remarked. The kidneys pour out scanty liquid containing much white and yellow deposits; the glandular secretions from under the skin in the armpits are diseased and offensive, as are also those from the inside of the throat, whereby the breath becomes tainted; the quality of the discharge from the bowels is in the great majority of cases exceedingly dark and in all ways offensive; and although the natural red secretion from the womb is wanting, there is, most commonly, abundant outpouring of white or yellow liquid of a diseased character, commonly called "whites."

Even the thinking brain gives evidence of the double condition of congestion and morbid sensitiveness consequent on the imperfect nutrition of its tissue. The inclination to mental exertion and steady thought flags in women of constitutionally vivid and inquisitive intellect; but their moral nature becomes painfully morbid, impressible, and variable; they become touchy and irritable on the one hand, and "pleased with a trifle, tickled with a straw" on the other; they find breath and legs for a pic-nic or a dance, but cannot walk across the room for a book.

Out of the preceding statements and explanations arises the question, How came such congestion and irritation? Experience points to two great causes—bad mental conditions and bad air. Scarcely is there one case in fifty of green-sickness with deficient menstruation and with leucorrhœa which does not acknowledge one of these causes. Anxiety, sorrow in some shape or other, “one fatal remembrance” that has fixed its fangs deeply in the moral nature of the woman (in woman whose moral nature is her life), is the tale which two out of three women have to tell of the commencement of their failing health in these instances. The brain instead of wasting the entire frame and so suppressing the menstruation, as in the case formerly mentioned, interferes, in the present case, exclusively with the organs of digestion, setting up in their nerves an amount of sympathetic excitement, which passing into exhaustion entails the loss of power over the circulation in the organs which they supply; and thus the process of congestion begins. And as the laborious and distressed function of the upper organs of digestion always involves, sooner or later, the function of the nerves of the lower organs of the same system, the whole of the contents of the belly become congested, frequently by a very slow process of months or even years. But, meantime, the brain is with its painful thought always interfering.

An atmosphere of an inappropriate if not

unwholesome kind produces the same results more rapidly: for it acts by withholding from the entire nervous system a stimulus to the exercise of its functions which it incessantly requires; to which is added, on some occasions, the want of sufficient materials of the air to convert the dark blood of the veins, as it arrives in the lungs, into the vermilion vivifying liquid which the heart is to send forth again over the body. It is, however, difficult to indicate the exact condition of air which thus operates against the nervous power and the blood circulation; for sometimes recovery from the malady will take place on the patient being removed from an inland to a sea-side position, and sometimes the reverse is the fact. Damp, whether cold or warm, appears to be the quality of air which most certainly deteriorates the functions in question. I have often been able to trace the malady to the clay upon which the patient's house was built, and to see it removed when she had resided a few months on gravel or lime.

The blood deteriorated by the immediate and exciting causes above mentioned, although unfit to nourish the higher tissues and to secrete healthily, contains the necessary ingredients for the deposit of fat, which is a less complex deposit than any other in the body. Thus it is that women suffering from green-sickness are frequently rounded out by fat; and as fat is the measurement of health to a great number of persons, they wonder

why the patient cannot do as others do. However, she usually becomes thinner as she recovers better complexion and breathing.

In the treatment of this disease, the first aim is to overcome the congestion of the internal organs. This cannot at first be effected by the action of cold causing reaction to the surface, because the interior has not the power so to react in the majority of instances. It is therefore necessary to act by heat; and the lamp sweat is the process which should be administered every day, either before breakfast or at noon. If the perspiration is procured with great difficulty before breakfast, take it at noon: it frequently is more easy to procure when a meal has been taken. Apply the heat very gradually; and if in twenty or thirty minutes the skin becomes moist, let the sweating continue gently for a quarter of an hour. It may be necessary to cool the head with wet cloths: but I have found this precaution less necessary in this than in most other maladies. The heart, too, irritable as it is, seems rather to be quieted than excited, as it is more or less when the lamp sweat is administered in other disorders. The feet should be kept in hot water during the process. After the sweating rub with a dripping sheet for three minutes, and dry with much friction. Drink a small tumbler of water, and walk for twenty to thirty minutes. This process should be repeated every day for a week, if the head does not suffer; but if it does, the lamp should be taken

every other day. In any case, in the second week it should only be given three times. And this alternation of weeks of daily use of it, and of every other day, may be continued, until the signs of improving circulation of blood on the surface are undoubted from the fact of more warmth and colour. In the meantime, the smaller methods of causing reaction should be used. The body should be rubbed at noon (if the lamp is given before breakfast) by degrees with wet towels, or altogether with a wet sheet, for three or four minutes; and a great amount of dry rubbing should follow. A foot bath of water at 60° with mustard for five or six minutes should be taken in the afternoon. As the reactive energy is observed to increase under these applications, others having the same aim, but stronger in kind, should be resorted to. The spinal washing, at first with two minutes of hot water followed by two minutes of cold water, should be used immediately before the dripping sheet at noon or at rising, as it may be, according to the time of the lamp sweat. Then cold water alone should be employed for that purpose. This gradual augmentation of cold agents may be acted upon until the patient is able to bear the cold falling douche, at first on the legs and arms only, and, after two or three applications, on the back as well as the limbs; the duration being two minutes on the limbs alone, and subsequently a minute on the back in addition.

All this time the lamp sweat will be administered twice, thrice, or oftener, in the week, according to the extent of reaction which takes place on the cold applications; for it is desirable to operate by reaction upon cold rather than by the attraction to the surface which heat enacts, so soon as the power of the interior organs to do so is confirmed. Employing both methods at first, but with more heat than cold, you gradually reverse the proportions, and terminate by requiring and using only the cold tonic. Arrived at this point, you are master of the malady: for you have so relieved the oppressed internal organs that they can by their own efforts continue that relief. Then begins the better digestion and better blood-making, as well as the better distribution of the blood.

During these operations it may be necessary from time to time to treat feverish conditions of stomach which arise, partly from the stimulation of the treatment itself, partly from the first rousings of its nerves in the effort of self-relief. The patient becomes dry-mouthed, thirsty, nauseated; and when that is the case, hot fomentations at 120° should be applied during half to three quarters of an hour for one, two, or more nights at bed-time, according to the persistence and intensity of these particular symptoms. For the same purpose a cold compress should be worn over the pit of the stomach in the intervals of the different hydro-therapeutic processes; but it will be neces-

sary to observe the slowness or readiness of its warming, and change or maintain it accordingly.

The sitz bath is not applicable until either the body has acquired sufficient reactive energy towards the exterior to warm well after a cold one, or until the healthy blood-making has fairly commenced. Warm sitz baths do more harm than good at any stage of the disease; and it is of no use to give cold sitz baths, unless you are sure that the patient will react upon them. Neither is it of much use to procure such reaction and direct blood towards the womb, unless you observe signs that strong digestion and blood-making are in progress. When this bath is judged to be appropriate, it should at first be taken for eight or ten minutes, and much friction used after it, with walking; and it should be gradually increased to twenty or even thirty minutes, if the weather is warm and the power of reaction is improving. Friction of the bowels with the hand will be profitably used during part of the time of the sitz bath.

When the cold sitz bath is applicable, then also may be used an injection of cold water into the passage of the womb once daily, especially if there be *creamy* or *yellow* weakening discharge, but not if the discharge is *transparent*: for, in the former case, it is secreted by the passage to the womb and the exterior parts of the womb, upon which the water may act as a tonic; whilst, in the latter case, it is derived from the interior of the womb, and

demonstrates inflammatory action there. The quantity of water injected may be from one pint to four.

Throughout the treatment it is desirable to relieve the lower bowel of its contents by the injection of three half pints of cold water daily, or every other day, according to the mass which is found to be passed, and the more healthy or diseased character which it exhibits. If water alone does not suffice for the purpose, add an ounce of honey or two table-spoons of olive oil.

Sometimes the renewal of the menstrual office of the womb is accompanied with painful excitement in the organ. In that case the hips and loins should be packed in wet towels for an hour before the morning bath, and they should be repeated at bed-time if there be great aching in the lower stomach, or if the menstrual discharge is scanty; its presence need be no obstacle to the packing.

The *diet* of women afflicted with menstrual suppression and green-sickness, is necessarily to some extent regulated by their power of taking food. The appetite generally languishes or, as I have already stated, is occasionally eccentric in its choice of articles. When it is almost *nil*, it is lawful to allow of certain things which under ordinary circumstances are improper, but which under this condition are the only articles which the patient can tolerate, such as ham, tongue, bacon, salad with mutton or beef or fowl, cheese,

ale, or porter. This latitudinarian diet will only be necessary so long as the appetite is in its depressed state ; and when the patient can swallow less piquant but more nutritious food, wholesome, well-cooked, animal diet is the best ; not of plain roast and boiled *de rigueur*, but in any form which excludes much fat and oily matter. Claret and water or light ale may be taken in moderation throughout the malady once in the day, but never near to bed-time. Coffee, and all liquids at a high temperature, should be avoided. The quantity of aliment taken must be regulated by the amount of exercise and of water treatment, both of which will engender a call for food proportionate to the waste of substance which they produce. But let it never be supposed that constant large doses of stimulating food, such as turtle soup, venison pasty, &c., are to hasten recovery, unless the patient has real appetite for them.

Exercise is at first barely possible if the case be of long standing, so breathless and weak is the patient. At this point all you can do is to imitate exercise by abundant and strong friction, both after the baths and all over the body. But exposure to air can then scarcely be excessive, either in the act of sitting or driving out. As the breathing improves it will of course be desirable to aid circulation in the extremities and surface, and promote appetite in the interior, by walking exercise, during which much more

oxygen is consumed than in any other sort of exercise.

It is well to mention that when it is found that sea air suits patients with green-sickness, all the baths may be taken with sea water, which sometimes appears to act more than by temperature alone.

LEUCORRHŒA.—WHITES.—FALLING WOMB.

The prolonged account of the different causes of, and symptoms attending, suppressed and scanty menstruation, anticipates the necessity for dwelling at any length on the malady which forms the present heading: for it is in the great majority of cases an attendant of the suppression and scantiness. It is, however, less continuous and profuse in the deficient menstruation of full-blooded women than in that which is due to general waste of the body, where again it is less than in the cases attended with deterioration of blood and green-sickness: in which latter it oftentimes proves a formidable exhausting symptom, on which account a local treatment was mentioned as specially desirable therein. As regards the appearance of leucorrhœa in these named morbid conditions, therefore, nothing need be said apart from the other symptoms. The treatment which will remedy these last, will remedy the leucorrhœa in most cases.

Not in all cases, however; for it constantly happens that, although the menstruation is correct as to time, duration, and even in quality and quantity, yet in the intervals of its comings there shall be more or less of this annoying white discharge. In such instances it will be found to be the product rather of the membrane which lines the passage to the womb, than of the womb itself. Some of the discharge may be due to chronic inflammation of the mouth and neck of the womb, although those parts are seldom found to be either swollen or very sensitive at the time; but by far the greater quantity proceeds, as I said, from the lining of the passage. One condition of the womb almost always attends leucorrhœa under this circumstance, namely, its falling down low into the passage. There its pressure is a constant source of irritation to the lining membrane of that passage. Besides which, there is feebleness and congestion of the circulation in the whole of that region, and the vessels relieve themselves by the outpouring of whites.

The real cause of leucorrhœa, therefore, in such cases is to be looked for in the condition and position of the body of the womb. And the position low down in the passage will be found to depend upon congestion of the body of womb, the weight of which is thereby much increased, and favours the tendency to drop. Add to this that the falling in question is for the most part found in women who walk, work, or stand, or

dance excessively; differing in this from the leucorrhœa which exists in women of sedentary habits. A dressmaker sitting to sew for twelve hours a day, or a luxurious lady who never walks, but sits in a carriage for two hours and in a warm chair in a warm room during twelve hours in the day, both arrive at the same malady of leucorrhœa—but always with some irregularity, generally retention, of the menstrual secretion. But when a woman uses too strong exercise of limbs, she drives too much blood down towards the lower organs of the trunk, wherein it gradually stagnates; but inasmuch as the exercise which she takes aids in the maintenance of her general health, the secreting function of the womb continues in a healthy manner; the congestion is in the body of the womb, whilst its interior lining and nervous supply remain in good order. Certain constitutional tendencies are favourable to the production of such a result. We find them in women of vivid brains but soft fibre of body generally; and such are usually of light complexion, with auburn, sandy, or positively red hair.

The leucorrhœa of which I am now speaking occurs at any age of life; and in far too many instances its presence is the excuse for the disgusting and immoral use of the examination by the speculum in the persons of women of twenty years, when the record of the previous and present symptoms would amply suffice to fix the character of the malady without this infrac-

tion of a girl's delicacy. But it is most commonly found in married women after two or three labours of somewhat violent kind; or when the mother has got upon her feet too soon after parturition. On occasions, luckily less frequent, the womb thus mechanically misused exhibits nervous irritability, as well as congestion and falling; so that heavy pain in the region, and much nervous misery of mind and body, have to be borne in addition to the sense of falling and the leucorrhœa.

Looking to the causes of this kind of leucorrhœa, it is plain that rest in the recumbent posture is the foremost necessity of the treatment, and the absence of which works steadily against all other measures of relief. Now when only medicinal drugs are used for the purpose of giving tone to the weakened and congested womb, the recumbent posture will always tend to injure the general health which hitherto had been so satisfactory; and one accordingly finds headache, feverish stomach, bad sleep, appear after a short trial of rest and iron. But to the hydro-therapeutic tonie remedies no such objection can be raised. The patient may lie down the entire day, and yet maintain her appetite, digestion, and sleep.

Every morning she should take a cold sitz bath for five minutes, and rub well for two or three minutes with a dripping sheet immediately after it; drying with much friction. At noon and

in the afternoon the sitz bath should be repeated, and during the first minute of each one, the spine should be sponged from the neck downwards. Morning and night let her inject into the passage of the womb a pint of cold water with ten grains of tannin in it; though if the water can be procured of *great* coldness, its tonic effect will suffice without the chemical astringent action of the tannin. As for those strong injections of alum, zinc, copper, and silver, I never knew any *permanent* good derived from them; they coagulate the secretion and constrict the mucous membrane of the passage, but they do not add one jot to the independent vitality of the latter, by which alone it can *maintain* its healthy secreting function. Yet it is marvellous how traditional they have become; and women have immense faith in injections which have a chemical compound in them—especially if that compound be written in Latin.

Continuing this tonic treatment for a fortnight or so, the agency of the lamp sweat must then be employed to operate on the congested state of the womb and its neighbourhood. It should be taken at noon every other day, in the recumbent posture if practicable; the perspiration should be allowed to flow for ten minutes, and a shallow bath at 60° for two minutes should be given after it. About the same time, also, the sitz baths may be extended to ten minutes each. After a fortnight of this it would be well to take a falling

douche, if practicable, for a minute on the lower half of the back, and one or two minutes on the hips and legs. Do this at noon three times a week; having the lamp sweat twice a week, and the cold sitz baths on other days. If a douche is not to be procured, take a cold shower bath on the back as long and as heavy as is obtainable; or, failing that, a cold spinal washing for six minutes, followed by rubbing with a dripping sheet all over for three minutes after it. As the signals of fallen womb diminish and those of improved secretion (which should pass from thick yellow to thin white in that case) increase, the lamp should be gradually withdrawn, and the cold tonie measures alone trusted for restoring the vigour of the enfeebled regions. But never allow the sitz baths to extend beyond a quarter of an hour, nor the falling douche beyond three minutes; in both cases you will be causing too much reaction towards the very points whence you desire to expel excessive blood. Packing never does any good in this malady, unless from accidental circumstances, mental or physical, some shock is given to the womb and sets up *painful* action therein. Then a few packings of the hips and of the loins in wet towels may be practised, but they must be abandoned as soon as the pain and heat of the lower belly and groins dissipates.

Difficult action of the bowels very commonly adds to the troubles of the patient, and is due

both to vital and mechanical causes. The same state of the nerves of the uterine region which begets the relaxation therein, causes want of sensitiveness and expelling power in the lower bowel. The body of the womb pressing on that bowel adds to the difficulty; and very often much pain is excited in the endeavour to overcome the resistance of the pressure and to pass the feces which are higher up the bowel. A frequent injection thus becomes necessary to prevent accumulation in that part, and three half pints of cold water with two or three table-spoons of olive oil should be thrown up every other day. This should be done very carefully, and gives much pain if it is not so done, in consequence of the womb resting on the lower bowel. A *long* tube should be directed very slowly *towards the back*, and to a considerable distance upwards; it would be well, in fact, if the patient lay on the stomach whilst it is being introduced, so that the womb may be kept out of the way of injury by falling forward until the tube passes it.

The question of mechanical support of the womb under these circumstances must be settled by the exigencies of the patient's position. If it is *inevitable* that she should take walking or standing exertion, or that she *cannot* lie down all day by reason of disagreeables in the head arising from that posture, then it is better to support the womb by means of a sponge or

by the least hard and irritating instrument that can be devised during such walking or standing, so that the organ may suffer as little as possible from adverse mechanical causes. But it is not to be supposed that supports of this kind can *cure* falling down of the womb; on the contrary, if you trust to them alone, the womb becomes weaker and more dependent on them for its position; and if they are omitted for ever so short a time, that time is one of misery. Therefore, I hold that, except when a woman is under the necessity of walking or standing, these supports should not on any account be used, and that for the same reason they should be withdrawn at all times when she is not exerting her legs. A good-sized sponge is by far the preferable kind of support.

Of *diet*, I have only to say that all hot liquids are harmful; that it is not desirable that animal food should be taken more than once a day, unless the discharge is sufficient to induce waste of body; and that in that case a moderate quantity of ale or of claret may be taken, not with the idea that it will make one drop of blood to supply the waste (for that it cannot in any circumstances accomplish), but that it may aid the stomach in its task by affording its nerves a temporary stimulus. But the propriety of even a small quantity of stimulus of this kind is contingent on its not causing flushing of the face and fever of the stomach.

PAINFUL MENSTRUATION.

It frequently happens that the monthly discharge, being regular as to date, duration, and quantity, nevertheless is so painful in its advent as to form a really diseased condition. The lower back, the lower stomach, the hips and thighs, are the points of distress, which is expressed by spasmodic or lancinating or heavy or bearing-down pains, and occasionally by all of them, in the course of the illness. In many cases the pain is only severe at the time when the womb is preparing to perform its secreting function, and ceases with the appearance of the secretion; at other times it continues steadily or fitfully during the whole duration of it. In some cases, the discharge is healthy in character; in others, it is dark almost to blackness, brown, with membranous shreds, slimy, foetid.

Upon these differences may be founded to a great extent the kind of morbid action which produces the pain.

If the pain only precedes the discharge and ceases with it, the source of it is purely a neuralgic excitement of the spinal nerves of the womb, roused by the *violent* organic effort of that part to commence its periodical office; that effort finding relief in the discharge, as do also the spinal nerves of the womb. The pain in this case is mostly *spasmodic* or *lancinating*

through the lowest region of the belly, or else it shoots down the thighs. Flushing of the face and throbbing of the brain accompany it; sometimes with giddiness or intense temple headache. Against this kind of painful menstruation the foot bath at 80° with mustard, and much friction for a quarter of an hour, should be employed, and should be repeated three times in the day. Before rising in the morning apply a cold, wet, folded towel across the loins and lowest back, and underneath it a double blanket. Change this wet towel every fifteen or twenty minutes for an hour and a half. Whilst doing this apply very hot dry flannels over the lowest stomach, changing them every ten minutes or so: the more hot these are, the better. After this process rub the loins and thighs well with cold wet towels for three minutes. All this should be repeated at noon or at evening, or at both times if the pain is very great; the foot bath, as above, intervening every three or four hours. Washing of the hands in very hot water at repeated times also is beneficial. A great number of homœopathic and some allopathic sedatives may be found to aid the above external remedies. But I would warn all women against the employment of all ferruginous medicaments, given for the purpose of forcing on the illness, and of gin and other spirituous doses, which only act by transferring the irritation to the nerves and membranes of the stomach, whence it wanders back to the womb, requiring increased

doses of the spirituous agent at each period. Rest of loins and limbs is necessary during these pains; it is a grave error to take walking exercise under the impression that it will expedite the coming of the secretion, and so mitigate the antecedent suffering.

If the pain of the sharp neuralgie kind continues in a steady or fitful way all through the illness, the same measures may be employed, except the foot baths, instead of which *dry* heat by flannel or bottle should be applied to the feet. The number of applications must vary with the number and length of neuralgie attacks; it being mostly sufficient to make one application in the morning.

Women who are subject to this pain preceeding the illness should, during the week or ten days antecedent to the attack, do as follows:—Before rising every morning pack the hips and loins with cold wet towels for one hour, and follow it by either a rubbing with a dripping sheet, or, if practicable, a shower bath at 60° . At noon-day take a sitz bath at 75° for ten to fifteen minutes; and after drying with much friction, sponge the lowest back immediately with cold water for three or four minutes. Wear a cold compress on the lowest back all day, wetting it three times in the day. Walking exertion to be sparingly taking during these days, but to be freely taken, especially on horseback, during the remainder of the time following on the last

monthly illness. Coffee should be altogether avoided by this class of sufferers. So also should hot condiments.

In cases where the pain of menstruation is *heavy* and *bearing down*, there is almost invariably some morbid condition of the discharge—morbid in colour, consistence, and odour. When membranous shreds (*skins*, as women commonly call them) are passed with it, more or less of lancinating pain accompanies the heavy and downward pain. In all these instances, there is both congestion of the body of the womb and inflammation of its lining membrane. This last-named state is the cause of the diseased outpouring, and occasionally is so intense as to secrete and throw off the membranous matter above mentioned. This is the most painful of all menstrual states of the womb, for neuralgia of the organ is superadded; and it persists more or less during the whole period of the illness. The quantity of discharge is not frequently excessive; but it often comes freely for a few hours, then scantily, and is prolonged to seven or eight days. It causes immense general disturbance of the nerves, excites constant shiverings, gives the patient a pale, shrunk, tearful face, and drives the spirits into the lowest depths.

Against this kind of menstrual pain packing of the hips and loins should be assiduously employed from the first moment of the attack. It should be practised morning and night for

one hour; rubbing the packed parts with cold damp towels afterwards. Immediately after this let the patient lie on a thick-folded, cold, wet towel with a folded blanket under it, and so remain for two hours without changing it. Then—that is, when the cold towel has been adjusted to the back—commence to foment the lowest stomach with flannels, wrung out of water at 105° , for one hour. A higher temperature than this might act as an excitant to the womb, whilst a lower one would fail to soothe, by causing repeated local reactions. If after these appliances the heavy pains diminish, but the sharp pains continue, very hot *dry* flannels should be placed over the lowest stomach and should be changed every four or five minutes for an hour or two. But if the packing and warm fomentations have had the effect of mitigating the pain generally, it will be better to keep the recumbent posture and confine treatment to the use of the cold compress to the lowest back, refreshing it every three hours or so, until the evening or morning arrives, when the packing is to be again employed. This last and the subsequent fomentation should be continued daily throughout the attack, both for the purposes of present relief, and to render the womb less likely to fall into a similar amount of inflammation when the period again comes round. Foot baths at 90° with mustard for ten or twelve minutes may be taken once or twice

in the day if the head is much suffering, but otherwise not, as they might increase the bearing down pain. A mild and long-continued mustard poultice across the loins often affords relief: it should be made of equal parts of linseed meal and mustard flour, and maintained for an hour at least, and repeated daily. Here, as in the last-named menstrual pain, considerable mitigation may be obtained by certain sedative remedies both homœopathic and allopathic: among the latter, *hemlock* combined with *camphor*, or *henbane* combined with *castoreum*, both of them in very small but frequently-repeated doses, are preferable. No positive remedy, however, is more necessary than the negative remedy of repose of body and avoidance of mental excitements, whether of the pleasurable or painful or simply laborious kind.

Women affected by such menstruation as this should in the intervals of the attacks pack the hips and loins in wet towels every day on rising, for an hour, and sponge all over in a bath at 65° to 70° after it. Every afternoon or at bedtime, they should take a sitz bath at 75° for fifteen minutes. They should sleep with a cold compress on the lowest stomach; but if this causes dreaming, it may be worn all day instead and changed twice. They should avoid much walking, although horseback very often agrees well with them. In diet they should abstain from *hot* drinks generally; also from *chicsee*,

eggs, honey, and spiced articles of food. Some wine is frequently beneficial; but it should be of the least alcoholic kind, such as hock, claret, and the weaker Burgundy wines; sound cider sometimes agrees well. It is needless to add that these drinks have no effect in *strengthening* the patient, and that their action is specifically on the womb—probably dependent on their acid and stringent properties; for it is certain that stronger wines do nothing but harm to those who suffer from this particular phase of womb irritation.

It may be a year or two before these intermenstrual measures bring the womb into a more healthy state for its periodical office. But this is no marvel when it is considered that this particular womb mischief is for the most part owing to a deep-rooted constitutional tendency, and not unfrequently is hereditary. It would seem as if numbers of women are born, whose bodies, having quite enough to do to maintain their individual existence, perform all the functions which refer to the propagation of other individuals with pain and labour; the *additional* office is too much for them.

EXCESSIVE MENSTRUATION.

The term “excessive” has in the present instance a relative signification: a quantity of discharge, which in one woman would not only

be easily tolerated but is necessary for healthy sensation, would be excessive and exhausting in another woman. Recalling what was said in the first page of this Part regarding the supplementary character of the generative function, it will not be difficult to perceive that the vitality of some women may be of a kind and degree which allows of much greater activity being directed towards that function and its organs than in other women; the superfluity of vitality, so to speak, exists more especially in certain women. It will be necessary, therefore, to go back in the history of womanhood, to ascertain what has been the *habit* of the woman since her entrance into it, and to observe what has been the result upon her general condition.

If a woman troubled with large monthly secretion enduring for seven or eight days is able to eat and digest a good amount of food at all times, she is evidently forming a good amount of blood, thereby upholding a good amount of vitality, and able therefore to part with a good portion of it to the generative organs. With a woman so situated it is needless to interfere by treatment, however great the discharge may be, so long as there is no invasion of the nervous and muscular activity in the manner described under the head of *green-sickness*. For it is possible for a strong blood-making woman, such as that just mentioned, to have her better blood so freely poured out at one month as to be

unable to renew it by the next month; and this, repeated for two or three years, converts her at length into a breathless mass of fat, without appetite or digestion to reform the precious vermilion fluid which has been lost, and which alone can nourish the nervous and other high tissues of the frame. Whenever, therefore, it is observed that a full-blooded woman having copious monthly illness begins to complain of palpitations of the heart and shortened breathing, it may be inferred that she is losing more blood (for in such cases it is not merely bloody secretion, but actual blood, which is poured out), than she is making out of the food which she takes; and she should be treated as follows:—

Let her on rising take a cold sitz bath for ten minutes, and sponge all over in it or in a shallow bath for a minute at the end of the sitz bath; drinking a tumbler of water and walking for half an hour after it. At noon every other day sweat with a lamp for five minutes after becoming moist all over; the heat to be very gradually applied, and the head kept cool by wet cloths during the process. Sponge and rub all over in a shallow bath at 60° after it for two or three minutes, and walk for twenty minutes. On the alternate day at noon take a very cold sitz bath for ten minutes, and walk for twenty minutes after it. Repeat the sitz bath in the afternoon every day. At bed-time sponge the lowest back with cold water three

minutes or so. The aim of such treatment is to give a healthy tone to the nerves and blood-vessels of the region about the womb: this the sitz baths and spine washing do. The lamp is used to withdraw congestion from the whole of the internal organs; the palpitations, breathlessness, and decreasing locomotive activity evidencing that condition of them. (See p. 250). The lamp sweat is more especially required if there be bearing down pain between and during periodical illnesses: for that symptom points particularly to congestion of the womb itself. If that symptom of bearing down, heavy, pain is strong, it would also be reason for packing of the hips and loins on rising every other morning before the shallow bath, instead of the sitz for ten minutes; but this should be avoided unless there be *decided pain*, not simple uneasiness.

If on the other hand there is excessive loss of blood without any local pain or distress whatever, the morning sitz and shallow being continued, as also the lamp every other day at noon, there should be every other day at noon a cold shower bath on the loins, or better still, if attainable, a cold falling douche for one minute on the lower half of the back and two minutes on the hips and thighs. In this case also the cold sitz in the afternoon should be prolonged to twenty minutes, and the temperature maintained as low as possible by the addition of fresh water or of ice. The aim in this case is

to *strongly* stimulate the nerves of the spine which supply the womb, and which have lost their control over the circulation in that organ. In all cases it is well to sponge the lowest back with cold water at bed-time. The propriety of continuing the lamp must be estimated by its effect upon the sleep and the heart, and should be suspended for a week or so, should the former be difficult to obtain or broken, and the latter increasingly tumultuous in its action. If the shower-bath or falling douche excites any headache, a cold spinal wash for five or six minutes may be substituted for them; though it would be well at first to try the douche on the hips and thighs only, avoiding the back.

The *diet* should be maintained at the point of full nutrition if there be appetite for food: for the whole treatment proceeds on the supposition that the blood of the body is failing in quality if not in quantity. But let me repeat that there is no blood-making nutriment in alcoholic liquids. Moreover, in women who have a blood-making faculty (and it is of such I am now speaking), alcohol would only tend to direct the blood as it is formed towards the head. The *exercise* should not much exceed that which is above indicated. But when the excessive menstruation of full-blooded women has at length reduced their powers of exertion, and is *not* accompanied with pain, horse exercise, taken gently, is often useful by its action on

the circulation of the spinal marrow, which it stimulates without the exhaustion of exertion. Women in these cases should sleep in cool beds and in cool rooms, in order to obtain as much reaction as possible towards the surface, and to divert the blood from congregating internally.

There is seldom difficulty in recovering by the employment of these measures. The subjects of the disorder being persons with the nutritive power strong in them readily acquire sufficient organic strength, under the tonic treatment, to enable the enfeebled organs to resume their natural amount of secretion. But inasmuch as the faculty of renewing the blood is great in those persons, so its direction should be such as to save the head when less of it is lost by the womb, and more of it is made by the body. This the hydrotherapeia does by bringing the blood, as it increases in quantity throughout the frame, towards the surface and the extremities; if it were not so directed, it would drive towards the brain, enfeebled as that organ is by previous exhaustion, and produce pain, giddiness, excitement, or other more serious consequences. When women of this kind have recourse to iron medicine they little think of the risk which their heads incur, if it has the effect of *rapidly* diminishing the excessive discharge. I have known apoplexy ensue upon its use by a middle-aged woman—the age when

the brain is in its most perilous state of sensitiveness.

To moderate the excess of discharge whilst it is still going on in the persons alluded to, all that can be done is to keep the recumbent posture; to take a very cold sitz bath for three minutes, two or three times in the day; and to apply the counteraction of a mustard plaster across the loins for half to one hour daily: the plaster being made sufficiently diluted—say, equal parts of mustard and linseed flours—to be thus worn daily. There are very effective homœopathic remedies also for this immediate state. If from headache or other source the patient is unable to take a sitz bath, cold, folded, wet towels should be applied to the lower back and the lower belly for an hour two or three times in the day; changing the towels every ten minutes or so, and not allowing them to become warm.

Excessive menstruation, however, takes place also in women of highly nervous temperament, and who do *not* possess the blood-making faculty strongly: in these, as might be supposed, the mitigation of the loss at the moment when it is going on, as well as the recovery of the frame in the intervals, is a more tedious process than in the last-cited instance. The patients are always highly sensitive persons both in physique and morale, and that is no doubt at the foundation of the mischief; the menstrual function of the womb from its first appearance irritating the brain and

spine, which re-act upon the womb. In some cases the tendency to excessive discharge dates from some mental shock or strain, and the same interchange of irritation is established, beginning in the brain instead of the uterine organs. Meanwhile, the same nervous sensitiveness interferes constantly with the function of digestion, and tends to waste the blood and tissues for which the digestion may have afforded the materials. Accordingly, the patient is very commonly a thin woman, with sharp-featured face, anxious temperament, restless both in mind and body, whose excitability of brain gives a fictitious power to the muscles, so that she is desirous and able to walk when it would be much better that she should remain quiet, for her's is only the energy of impulse, not of strength.

In treating a patient of this kind there is the difficulty of steering between the tone which is needed and the irritation which exists; the latter being liable to be augmented by the measures which produce the former. At first therefore, the treatment must be in a great degree tentative, so as to avoid sudden and strong reactions. Accordingly, it would be well to administer on rising each day a pail douche composed of one pail at 80° and another at 60°, rubbing in it for a minute or two: after which it will be unnecessary to walk until the temperature of the water is appropriately lowered. At noon every day a cold sitz bath for four

minutes should be taken, with only a quarter of an hour walk after it. In the afternoon a sitz bath at 70° for ten minutes to be taken, with no walk after it, but with considerable friction of the body. If the feet are cold they should be rubbed for five minutes immediately after each sitz bath in water at 70° , with mustard or cayenne pepper in it. A compress of cold water should be applied to the lowest back for two or three hours in the morning, and for the same time in the evening; having care not to allow it to remain for any length of time after it has become hot. If under this plan there are no signals of increased restlessness of the nervous system, there will be, on the other hand, languor and desire to repose the body. This will be a sign that a proper amount of water stimulation has been applied: it has quieted the nerves, because it has not called upon them for too vehement reaction. The stimulation of the treatment may therefore be increased. The pail douche may be composed of water at 70° for three or four mornings, and then at 60° . The sitz at noon for five minutes should be accompanied with a sponging of the spine during the last two minutes. The sitz bath in the afternoon may be reduced to cold for five minutes; and the compress may be worn on the lowest back all day, but should be wetted afresh every three hours. All this, with almost total rest of the limbs added, will steadily increase the con-

trol of the nervous system over the circulation in the womb, and prevent both the impulses of the blood towards that organ and its stagnation in it. For mental and locomotive purposes. meanwhile, the patient will be conscious of increased incapacity; but this only indicates the diminution of irritative impulses, and that the nerves are in that state of quiescent self-control upon which the structure of real organic strength may be built. The care should be not to attempt a too rapid building up, either by rapid increase of hydro-therapeutic tonics or by dietetic stimulants. Women in the state we are speaking of are easily drawn back into a life of irritation, even under the most favourable circumstances, and they cannot be too carefully handled; but I would impress upon the reader that the *cold* stimulation is what must be ultimately relied upon for permanently strengthening the nerves and the womb. It might be more pleasant to the patient, and less troublesome to the doctor, that *warm* applications should be employed; but the knavery which yields to folly cannot have a good end in this, more than in any other human affairs.* Therefore I repeat that this chronic tendency to excessive menstrual discharge should be met by patiently gradual advances in the direction of cold tonic stimulation and patient

* I have known a medical practitioner treat—and amuse—his lady patients by putting them into a tepid sitz bath containing a wine glass of port wine! varied occasionally by the addition of a handful of oatmeal! *Proh pudor!*

repose from physical exertion, until the frame will bear the strongest measures without tumultuous reaction. In this manner the patient will pass on from the sitz bath at noon to the cold shower bath, and from that to the falling douche on the limbs at first, and subsequently on the trunk. Packing will rarely be necessary unless some local pain or general feverishness springs up, as happens sometimes in the course of water treatment; and then cold fomentations to the lower back and belly, for twenty minutes each, for an hour and a half in the morning, may be used; or the packing with three towels for forty to sixty minutes, if the feverish excitement be general. Lamp sweating is never desirable, since it excites the nervous system, which may do very well when there is congestion, but may do harm when there is already nervous irritation as the basis of the malady.

The *diet* should be of the animal kind to a great extent, provided there be appetite for it: for in the waste going on during nervous irritation it will be required and digested. If the stomach turns from it at first, its propensity for milder vegetable food—which is due occasionally to some feverishness of the lining membrane of the stomach, and at other times to the well-known caprice of a nervous disorder—must be gratified. As the nerves acquire more power the desire for animal food will grow, and it will be proper to meet it in spite of the small amount

of exercise recommended; with regard to which it must be mentioned, that at no period of the disorder should it be taken otherwise than sparingly, until *two or three* menstrual periods have given evidence that the nerves of the spine and the womb have passed into the healthy action, by the restriction of the discharge within healthy bounds.

During the menstrual period it will be beneficial to apply a cold wet towel to the lowest back, and change it every quarter of an hour during two hours three times a day. After the noonday and night applications of this kind a cold sitz bath for two minutes will be useful. I have repeatedly seen good derived, both to the head and the secretory irritation of the womb, from the constant application of a cold wet pad to the nape of the neck and base of the skull, wetting it afresh every hour or so. This is easily applied in the recumbent posture, which is the correct posture in such circumstances; but may be maintained without difficulty when seated. The reason for the benefit to be got from this will be plain to a physiologist; and the reader will find some explanation of it in the remarks on the *cerebellum* at page 217.

CHANGE OF LIFE.

If the entrance into womanhood is a period of organic and sensile tumult in the frame in many persons, the cessation of the specific signal

of that state—viz., the menstrual discharge—is a source of much greater disorder to a much greater number of women. According to physiological reasoning the cause of this is sufficiently clear. During a period of thirty to thirty-five years a specific irritation has been set up in the womb thirteen times in every year, except during the period of pregnancy when a still greater specific irritation exists. These irritations, which in the great majority of women excite strong sympathetic movements in the great nervous centres, the brain and the spinal marrow, are relieved by the menstrual secretion; in other words, a specific irritation is carried off by the secretion. It is no wonder, therefore, that as the discharge diminishes whilst the organic irritation still exists, more or less of the latter is thrown upon other parts of the frame instead of finding exit by the former monthly secretion. Hereupon the question arises, how it is that a process so purely according to nature should constitute in the larger number of women a really diseased condition? To which it may be replied that, in part at least, the so morbid tumult is owing to the exquisite state of sensitiveness to which the nervous system of women educated in the higher classes of society is raised; for the tumult in question is not found to nearly so great an amount in the uneducated working women. In fact, the nervous system of women in the higher classes of society almost reaches the point of *disorder* under ordi-

nary circumstances; so much do moral and physical management tend to bring it thither. How intense, therefore, must be the excitement in such a nervous system when there is thrown upon it the irritation of an organ, with which for thirty years or more it has been bound by the most direct and powerful sympathies! Besides this, the cessation of the menstrual periods is the functional death of the womb, and, as in the death of the whole frame, is accompanied by the breaking down of the vital balance between the organs and the consequent incapacity for continued life, in the one case, and of comfortable life in the other. We are apt to forget that death itself is a function—an action, and not a passive proceeding; and it is pretty extensively thought to be *natural*. So, also, the functional death of the womb, although it be accompanied with so much morbid disturbance, is nevertheless a natural process.

Not a few of the disturbances of this period of life are, however, actual efforts of the nervous system to rid itself of the irritation which has been thrown upon it as above mentioned. The flushings of the face, the perspirations partial or general, the evolution of gases in the bowels and sometimes in the womb itself, the sudden outpouring of large quantities of urine, the leucorrhœal secretion, and, in more rare instances, the nettle rash, and the boils of the skin generally or of the pudenda particularly, are all results of

these efforts; and well do women know with what nervous miseries within these external demonstrations are accompanied!

It would be well if these were all the morbid phenomena attendant on this process of Nature. But there are others which indicate that the tumult in the nervous centres is unable to find relief by the external channels above enumerated; and in such case it has a much more serious meaning. Giddiness when standing or walking, swimming in the head when seated or lying down, throbbing in the brain, especially at the back and crown, transitory loss of vision or of hearing, intense pain at the root of the skull and nape of the neck, frequent numbness and partial loss of power in the limbs, choking palpitations of the heart, &c., all point to the severe disturbance of the brain and spine and to its concentration therein. That concentration may, if mental and material circumstances conspire, end in apoplectic seizure, or paralytic pressure in some portion of those organs. Great mental disturbance, especially depression, attends the worse instances of this tumult; and if to this be added real causes of distress from without, the head is placed in sore peril. So is it also when the attempt is made to relieve the moral depression and physical debility by the constant administration of diffusible stimulants and tonics, and by high feeding; these *for the moment* render the circulation in the nervous centres

steadily, by giving factitious power to their blood-vessels, but it is only to sink them deeper into powerlessness, and to concentrate more blood in them when they are unable to deal vigorously with that which they already have. Measures which whilst they give tone to the cerebral blood-vessels prevent an excess of blood from reaching them, are those alone which can be employed with safety as well as efficacy; and such will be found in hydro-therapeia.

Not unfrequently when these symptoms of internal irritation of the brain and spine have persisted for some months, neuralgia commences, indicating the extension or the transfer of the central trouble to the external nerves. It may come either as a raging pain along the nerves of the scalp, of the arms, or of the legs; or it may gradually invade the hands and feet, calling thither, as pain in any part of the body is liable to do, blood which stagnates in the fibrous tissues of the sinews and joints, and produces thickenings in the course of the sinews and lumps about the small joints, which are often absurdly called "gouty," although neither the patient in her whole existence, nor her ancestors, ever exhibited a sign of gouty disposition. This neuralgic extension of uterine and spinal irritation may gradually invade the large joints and stiffen them, one after another, until the patient becomes, as it were, knotted and twisted into the most painful and helpless and hopeless deformity.

As regards the disappearance of the menstrual discharge, which is the cause of the multiform and multiplied troubles above enumerated, it is most various and capricious in manner. It may be most regular in time, quantity, and duration, and then cease altogether for a number of months; reappearing with profusion once, ceasing again for months, reappearing with less profusion, and so on, until it ceases entirely. These are the patients who come off the best in this physical *embroglio*: the womb not *constantly* fidgetting and interfering with the brain, but relieving both the latter and itself by the copious occasional discharge, the intervals being free from tumult of the womb. These also are the women in whom the womb has played its part moderately, not excessively and exhaustingly; who have borne three or four children, and have not nursed them beyond seven or eight months; and, let it be added, whose brains are constitutionally strong and not too large. Again, the discharge may become more profuse every month until it has exhausted the nervous power of the nervous centres, and then it will cease abruptly; in this case the reflux of irritation upon those centres is the more felt as they have been weakened by the previous persevering losses, and paralytic pressure of greater or smaller extent may take place, with giddiness and throbbing of the head, and other distracting sensations in that region. This mode of cessation is most common in women

who have had large families, and have nursed their children for an imprudently long period; but it also obtains in unmarried women of thin frame and nervous temperament. Again, the cessation may be distinguished by extreme irregularity as to date and duration; the discharge being moderate in quantity, but most fitful even when the special irritation of the womb is present. It will then come on at the third week, the second week, the fifth or seventh week, at *any* time, in short; and when it arrives it will be present for a day, stop for twelve or eighteen hours, reappear, and so on. Even in the intervals of discharge there will be sensations threatening it. This is the manner of retreat which is most accompanied with the perspirations, flushing face, excessive micturition and other signs of nervous effort to relieve nervous tumult in the brain and spine; and it is that from which unmarried women and childless married women more usually suffer; it is also one of the least perilous, though one of the most tedious and nervously suffering paths, from the menstrual to the non-menstrual existence.

Such is an outline of the phenomena which are exhibited in the nervous system and in the womb at this period of woman's life. I have endeavoured to arrange them in some order according to my observation; but the same observation teaches that only an approximation to arrangement can be made in this matter. Like

all the vital acts of the generative system, it is veiled in mystery as to causation, and is not to be unravelled in the laws of its progress: women of the most opposite conditions occasionally pass through precisely the same kind of tumult. Women are said to be always variable and changeable; they certainly are so in this function.

It should be added that a great number of women traverse this period of life with very little suffering, and upon the whole this is found to be the case among maidens rather than women with family. But here also much depends upon temperament; a strong healthy brain and self-sustained mind diminishes suffering from this cause to its minimum.

With all the uncertainty as to the kind of persons in which the distresses of change of life are most intense, and as to the circumstances under which each kind of distress occurs, it may still be possible, in speaking of the treatment, to give some guidance which shall be founded on the character of those distresses. For this purpose the symptoms to be treated may be divided into those which show the concentration of disorder in the brain and spinal tissue, and those which show its diffusion from that point over the rest of the nervous tissue of the body. I have already recorded the signs of either of these states (pp. 288-89).

If the disorders consist of giddiness and swimming of the head, throbbing at the back or crown

of it, occasional loss of vision or hearing, intense pain at the root of the skull or nape of the neck, numbness or partial loss of power in the limbs, palpitations of the heart, feelings of fullness and at the same time of excitement in the brain, heavy but unrefreshing sleep—the treatment should aim at reducing the quantity of blood in the head, and steadying its circulation therein; for these are signals, not only of excessive blood in the brain, but of its congestion in different and varying parts of it. To do this the patient should pack three or four times a week on rising, with two towels over the whole trunk, and a third folded over the bowels for three quarters to one hour, applying a wet cloth to the head during it. After this, sponge all over in a sitz or shallow bath for two minutes in water at 65° or 70° , not colder; because it is undesirable to shock the upper trunk, whilst the brain is so full and sensitive, or to walk before breakfast, which the cold bath would require. Yet at noon a cold sitz bath should be taken for ten minutes, gradually increased to twenty by three or four minutes each day, wearing a cold cloth on the head during it. Cold applied below the ribs has none of the effect of shock to the head which it has when applied to the chest and shoulders, and it is wanted in this instance to draw blood down from the head. This sitz bath may be repeated in the afternoon four or five times a week if the head symptoms, especially the giddi-

ness, numbness, and heavy sleep, are strong or constant. But in the majority of cases one sitz bath in the day will suffice, and a foot bath of water at 60° with mustard, for five or eight minutes, may be taken instead of a second sitz. At bed-time it would be well to sponge the nape of the neck and back or crown of the head with cold water for a minute or two. If as the result of these operations, after two or three weeks, the head symptoms, especially the giddiness, throbbing, and heavy sleep, diminish considerably, the sweating with the lamp should be tried; the heat being applied very cautiously, and the head kept cool with wet cloths, with a shallow at 65° to succeed. This process may be practised once a week or twice in ten days at noon, according to the trying or comfortable sensations after it. The object of the lamp is to draw blood and irritation to the entire surface of the body, as the sitz is to draw it by reaction from the head downwards; but before the lamp is given, there should be undoubted signs that the packing and sitz bath have reduced the quantity of blood, and the violence of its circulation in the brain. With that assurance (and the diminution of the symptoms above enumerated will give it) the treatment may be reduced to a shallow at 65° on rising; a pack in towels before it once a week; a lamp sweat and shallow at 65° at noon once a week or twice in ten days; and a foot bath of cold water and mustard daily at any

hour when a walk after it is practicable. If the bowels are torpid a compress should be worn over them all day, wetting it two or three times a day; or if they are *very* constipated the sitz bath for twenty minutes may be necessary, and an enema of cold water and honey—an ounce of the latter to a pint of the former—taken two or three times a week. It may require many weeks to bring the head to bear the lamp sweat with comfort; but the patient may be sure that once she has reached that point, she will be able to preserve the head from peril, and to pass through the change going on in her frame with comparative ease. If the blood is prevented from being excessive in the brain by being kept in full circulation in the extremities and over the entire surface of the body, the brain may still be troubled in some degree by the irritations arising from the womb; but it will be in better state to resist them, and will be in no danger from their presence. Fortunately, this form of retreating menstruation is effected in the shortest time, although it is surrounded with the most peril.

The treatment just recommended is supposed to be carried on in the intervals of the discharges, however irregular these may be. During the period of the discharge it would be well, if it be excessive, to apply cold wet cloths to the lowest stomach and the lowest back for an hour and a half three times a day, changing the towels every fifteen or twenty minutes, and keeping

the recumbent posture; but it should be remembered that the head is full, and that excess of loss will have a wider meaning here than in cases where there is much tumult but not specially in the head: so that unless the loss be such as to cause some degree of faintness, cold extremities, or palpitating heart, it would be as well to limit all positive treatment, and only avoid standing and walking as much as possible. Whilst the discharge is going on the head symptoms are generally less in degree, and treatment is more required in the intervals of its advent.

The *diet* under the above circumstances of change should bear to non-stimulation rather than to its converse; the head symptoms not permitting the excitement caused by strong food to be sent to the brain without some danger. It is the more necessary to inculcate caution in this particular, as the giddiness and swimming in the head is often attributed to the undefined word "weakness;" and strong soups, frequent quantities of animal food, and alcoholic stimulants are given to overcome the supposed failure but real irritation of the brain's operations. Experience demonstrates that whenever *head* symptoms predominate, whether there be excess of discharge or not, it is more safe to take animal food only once in the day and in moderate quantity, to take succulent and farinaceous vegetable matter frequently, and to abstain from alcoholic

stimulation altogether. The amount of *exercise* must be measured by the frequency of the return of the discharge and its extent. If it appears at short intervals and copiously, it is clearly not proper to attempt much walking in the intervals, since that would invite both frequency and profusion. But if the intervals are long, that is, three months or more, even although the quantity be great when it arrives, there should be an active degree of locomotion practised if the inclination for it, implying the power, exists; it tends to obviate further fullness in the head in such case. Mental exertion, however, whether in the direction of the intellect or the feelings, is bad. Many a woman is carried off by cerebral apoplexy, or for ever incapacitated by palsy, at the stage of existence of which we are speaking, in consequence of moral affliction occurring at that precise period, and of the brain finding no relief through distant channels.

Should all the symptoms of concentration of tumult in the nervous centres diminish, and the irritation of these last become diffused over the frame in the form of neuralgic pain and stiffness, as already described, the treatment will consist of packings in a wet sheet two or three times a week, according to the amount of heat on the surface and of blood in the body; and of sweating with the lamp two or three times a week, according to the power of the head to bear it without throbbing or ache, and of the

heart to bear it without irregular and excessive beating; both processes being followed by a shallow bath at 60° for two or three minutes. The packing is intended to relieve that nervous heat of the surface which so often attends extensive or intense neuralgia, as well as the feverishness from blood fullness; whilst the lamp obviates the congestion, both in the nervous centres and at their extremities in the nerves of the scalp and limbs, of which the neuralgia and thickening and stiffness are the signs. With the same aims frequent frictions with wet sheets may be made over the body, say, daily at noon or afternoon. Sometimes, in addition to the external nerve pains, acute neuralgic pain invades the nerves of the stomach and crampy pains prevail at the pit of the stomach, either before or after taking food. Against this, very hot fomentations over that region should be applied every night or every other night at bed-time, for thirty or forty minutes, in addition to the treatment already advocated; in fact, the lamp should be used more frequently—say, three times a week—whilst this painful symptom is present.

These neuralgic pains may be dealt with in the manner just described—if they suddenly supervene on the actual and present tumult of retreating menstrual function—and frequently with success. But they are very prone to appear again and again, and finally to continue as a chronic disease after that function has altogether

ceased for a year or two. In this event it should be treated as *chronic neuralgic rheumatism*, an account of the method of doing which is given in my work on Chronic Disease. See also page 97 of the present work.

When the symptoms of the menstrual tumult are those which betoken the attempt of the nervous centres to throw their irritation on other organs, a less emphatic and more erratic treatment is demanded. In those bursts of heat all over the body, in those flushings of heat and redness over the face and throat, those hot and cold and general and partial perspirations, those large secretions from the kidneys, those enormous evolutions of gases in the bowels and of leucorrhœa from the womb, those itching eruptions, those boils on the surface—we behold Nature endeavouring to bring relief to her nobler organs; and the aim of medical art is to mitigate the distress which attends the effort, rather than to check the effort itself. We may be sure that in a woman, whose original organization or the physiological history of whose life renders a nervous disturbance at this period of existence inevitable, there would be more serious mischief within if it were not for these external exhibitions of the tumult. To render these last less diseased in character, and to afford as much comfort as possible to the surfaces by which the relief is being effected, should be the aim of the hydro-therapeutic treatment. Such treatment, operating directly on the skin, may be

made to soften it if it is harsh, to dry it if it is moist; and indirectly, through the same surface, the morbid excesses of the kidneys and bowels may be restrained.

Thus, if dry, hot, flushes rush all over the body, the patient should have a pail douche of two or three pails of water at 80° applied every day on rising; and if this does not correct them after a trial of two or three weeks, a packing of the trunk with two towels for three quarters to one hour should precede the pail douche every day, or every other day, according to the facility of warming in it: even twice a week will sometimes suffice. A foot bath at 60° , with mustard, should be taken for five or eight minutes once a day at least, to relieve any tendency towards the head: for that tendency exists so long as there is only a rush of blood and nerve circulation to the surface, without secretion therefrom. The pack and warm ablutions soon bring the skin into the secreting condition.

If the flushings are towards the head, face, and throat alone, the warm pail douche and the packing may be taken, as in the last paragraph; but it will be necessary, in addition, to take a sitz bath at 60° for fifteen or twenty minutes once a day, or if the symptoms are not exceedingly constant and strong, to take the sitz bath one day and the foot bath, as above, on the alternate day.

If the chief symptom is flushing with perspiration which is sometimes cold and sometimes hot,

a pail douche should be given in the morning, composed of one pail at 80° and another at 60° , rubbing well in the bath for two minutes, and drying with much friction. After a week or ten days of this, which prepares the skin for more cold tonic application, substitute for it rubbing with a cold sheet, at first moderately moist, but by degrees administered in a dripping state; the wet friction continuing for three or four minutes, and the dry for nearly the same time. The comfort which this affords to the clammy skin is immense, and it is promulgated to the brain in a manner which steadies the trembling lips and hands and tottering knees, which usually accompany this tumultuous act of perspiration. The skin becomes warm, dry, soft: but, inasmuch as the perspiration is a real transfer of irritation from the brain and spine to the skin, it is renewed from time to time, and the sheet rubbing should be repeated once or twice a day, according to the frequency and amount of the perspirations, and the miserable sensations attendant on them. If the feet are cold and clammy, they should be rubbed in water at 60° , or with very wet towels, for five minutes once a day at least. In a few instances the skin is so much disordered by the nervous tumult thrown upon it, that a much stronger stimulus than that which is afforded by the pail douche is required to abolish the disagreeable feelings passing through it, and it is necessary to rub with a cold dripping sheet in the morning, and take at noon either a

cold shower bath or a falling douche, for a minute or two, on the limbs, every day or every other day. This may always be done with safety and benefit, if the warm and cold pail douche fails in its comforting effect on the skin and nerves.

The excessive action of the kidneys very commonly accompanies the perspiration above mentioned, showing that it is the result of a general nervous tumult, and not of a transferred secretion from the skin. The mitigation of this symptom is effected by the same means which diminish the morbid secretory action of the skin; and the mingled warm and cold pail douche, dripping sheet, or shower bath, may be applied under the same circumstances. The temptation is to use the hot sitz bath, but this only increases both the perspiration of the skin and the activity of the kidneys.

If the chief symptom of distress is the evolution of large quantities of gases in the bowels or womb, the cold sitz bath for ten minutes morning and evening, with friction of the bowels during the time, is an effectual mode of obviating the secretion and of expelling the gases if they be secreted. Cold water foot baths aid this also, and may be taken at any time of day if it be three hours after a meal.

Under their respective heads it is mentioned what should be done in the event of leucorrhœa, nettle-rash, or boils, accompanying the passage from the menstrual to the non-menstrual stage of life.

The *diet* in the different circumstances of which I have been speaking, requires for the most part to be of nutritious kind. The constant effort going on in the nervous system to relieve its distress through other organs, entails great waste of the nervous tissue and of the frame generally. For this reason animal food may be taken twice in the day, and some claret or ale taken once in the day, but not near to bed-time. Of other liquids the less that is taken the better, especially if they be warm: they tend to the increase of perspirations, urine, and flatulence.

Exertion of limbs must be avoided as much as possible during all the above symptoms; the nerves have quite enough to do without wasting their powers on the movements of the limbs. Besides, the exercise of the will in that direction brings additional disturbance to the brain. The same reason holds good against mental exertions in society. Poor suffering women are very often told to "see their friends and exert themselves," when the exertion brings, and can only bring, pain and grief. Even when the change of life takes place with the minimum of nervous disturbance, it is prudent to relax the mental and bodily exertions which may have marked the previous thirty years of the woman's career; the year or two of the process is well spent in comparative inactivity, if that will help to insure many subsequent years of easy sensational existence, and perhaps even prevent the approach of disastrous

uterine disease. However, this last misfortune is too often the attendant of mere old age in women; the vitality of the organ not sufficing to continue the deposit of healthy tissue in it. This is rendered more likely if sorrows and anxieties beset the closing period of life.

When a woman, after the tumult of change of life has entirely past, has a strong tendency to become very fat, she should induce the skin to carry off as much of the *débris* of the body as possible, both by cold and hot processes, by reaction, and by attraction to the surface. She should use a cold bath every day on rising for three minutes at least, and she should sweat with a lamp once in a week or ten days, with a cold bath for three minutes after it. She should abstain from much liquid and from succulent vegetables, and take dry nutritious aliment such as meat and bread; some dry wine slightly diluted being admissible once a day. And inasmuch as there is no longer tumult in the nervous system, and waste of the watery parts of the blood is desirable, she should take abundant walking exercise, especially after the baths. By these means she may overcome the tendency to deposit fat, and be enabled to amuse herself and help others by her physical alacrity, instead of settling down into a coarse-featured, wheezing, immovable old lady.

THE HYDRO-THERAPEUTIC PROCESSES.

ALTHOUGH these processes may be familiar to many who make use of this work, their appearance here with some appended remarks on each may be useful when they come to be applied in the homes of such persons; whilst to those who are not acquainted with the manipulation, the description as well as the remarks are essential, and aid in the fulfilment of all the objects of the publication. The appended remarks bear upon the subject of the application of the different processes to chronic as well as acute disease, and would be otherwise incomplete. This part of the work, however, is rather put forth for the purpose of indoctrinating the reader with the physiological process by which a body in a lowered state of vital action is raised up to perform more vigorously its functions by the agency of hydro-therapeia; as well as with the process by which the excessive vital actions are restrained and subdued. I therefore speak first of the tonic processes of the treatment, and then of the soothing. There are others under both heads which might be introduced; but I desire only to treat of those which the patient can apply at home and apply safely.

RUBBING WITH TOWELS.

The patient sits on a chair or stool having the body down to the hips uncovered, and the legs well covered. He is then vigorously rubbed over the trunk and arms with the towels wrung out of water. The same vigorous friction is then applied with dry towels. The trunk and arms are then clothed, and the previous act of wet and dry friction is performed on the legs and feet.

This piecemeal rubbing is very often necessary at the commencement of the water treatment of the skin which has never been used to stimulation. It graduates the shock when such is the case; as also when the patient is in low state of blood, circulation, and animal warmth, there being in him internal oppression which must be driven outwards. Patients in this state will often bear and react upon this, when they could do neither with the wet sheet thrown at once over the entire standing body. It is likewise necessary when the patient is very short-breathed. The towels may require to be wrung out of water at 80° or 90° at first; gradually this temperature may be reduced in proportion as the skin shows stronger reaction, and when it arrives at cold it may at first be wrung so as to merely damp, and the amount of water left in it may be gradually increased until it is a *dripping* towel. Em-

ploying this graduated stimulation it is wonderful to behold the apparently hopeless cases of bloodlessness, of skin utterly dead in circulation though sensitive to the highest degree, and of constant cold on the surface, overcome, and the skin transformed into a coloured, warm, and resisting membrane. It requires the patience both of the patient and the doctor; but I can verify from long experience that both will be rewarded. An admiral sixty-six years old, once came to me in September, told me he had *never*, whether ashore or afloat, touched cold water with any part of his body for the previous thirty years: he always used the hottest water he could procure for all his ablutions. The consequence was, that he was everlastingly in a state of catarrh of head and throat, and rheumatic in his limbs. I began the schooling of his skin with rubbing towels as above described, and on Christmas-day of the same year he was taking the cold falling douche with comfort for his rheumatism. Persons with pale sensitive skins, pinched face, and the other signs of blood concentrated within, but with the power of taking aliment, are told. "you have not blood enough to react upon water;" but this is only the statement of utter practical ignorance. Reaction can always be procured by practised tact, whenever there is any power of food-taking and food-digesting left; when these have not been destroyed by alcohol, drugs, tobacco, or sensual excesses.

RUBBING WITH THE WET SHEET.

The patient stands uncovered and has a sheet wrung out of water thrown over the shoulders, so as to envelope the entire body. He is then rubbed vigorously with it all over for two, three, or four minutes. The frietion should be effected by making folds in the sheet, not by simply rubbing the expanded sheet with the expanded hand.

This process is very appropriate at the commencement of the treatment of persons whose skin has not been much accustomed to react upon cold water, but who have a fair amount of blood and nerve energy—more of these, in faet, than exists in persons who can only begin with the towel-rubbing. There are degrees in the application of the sheet also. At first it may be necessary to wring the sheet *well* out of the water, in order to insure reaction; and as this improves, the quantity of water left in the sheet should be increased by a smaller amount of wringing, until at length it becomes a *dripping* sheet. I would warn the patient against wringing the sheet out of *warm* water under any circumstances; he will become steadily colder instead of warmer after the application. This warning is necessary because frequently, amid profuse professions of care for the patient's bodily weakness, his mental weakness on the subject of cold applications is pandered to by

allowing a hot instead of a cold rubbing sheet. If a patient is in such a low state of blood and nerve as to unfit him for the use of the cold wet sheet, it is better to begin with partial rubbing of the body only, and proceed by degrees to more extensive rubbings; but to cover a naked body, which is judged to be incapable of bearing cold at all, with a sheet from which steaming evaporation is passing, is to expose it to the certainty of no reaction, and the very considerable chance of catarrh of some kind or other. The wet rubbing sheet is one of the most pleasant applications in its sensational results on the skin, although it is not liked by many whilst being effected. It rouses all the activity of the nerves and bloodvessels of the skin, without taking much animal heat from, or calling for much organic exertion of, the frame; and whilst doing this, it transmits to the nervous centres the genial stimulation which it impresses on the great nervous outer covering of the body. By this channel the rubbing sheet becomes a wonderful disperser of *slight* attacks of nervous headache, *tic-douloureux*, of toothache, and the first stage of catarrh of the nostrils, before they have begun to distil, and are dry and raw. For the same reason it takes off the languor of fatigue, and that state of nerves wherein the volition of the body and the alacrity of the mind are at a low ebb, all things appearing dull and unworthy of effort. People who take ethers and alcohol for this state of nerves may laugh at the idea of a wet-sheet

rubbing substituting energy and good spirits for it; but, as laughter proves nothing but the laughter's folly in the absence of experience, the fact is not the less certain. Methinks too, that persons in that state are precisely those who need to be "rubbed up." As for the relief from the sense of fatigue after exertion, let him who has had a long run after the hounds or after the cricket-ball try the wet rubbing sheet: he will discover a sensation worth the having. The sheet can be applied without risk immediately after fatigue, when a shallow bath would be improper; and it can be applied at any time of day, except the two hours after a meal. The patient should not rub himself except it be a little over the chest; he is liable to have giddiness or palpitation of the heart if he makes violent exertion during the process. Except for the nervous states just mentioned, the dripping sheet is abandoned in active treatment so soon as the patient can bear ablution with water. But if from the accident of very bad weather the patient cannot get out to walk after a shallow bath (with or without a previous pack or sweat), then a rubbing sheet would be well substituted, and should be rather strongly wrung out.

THE SHALLOW BATH.

This is so called because it is not intended that it should be so deep as to cover the body

up to the throat. It should, however, be six inches deep at least, and is taken in a long open vessel in which the bather can sit, though it need not be so long as to allow of his lying down stretched out in it. When the patient is seated in it, the attendant alternately splashes and rubs the body, especially the back, the patient splashing and rubbing the front of the body meantime. It is good to use a towel both for the rubbing and the splashing; which last operation an expert attendant will perform by making the towel do the office of a large ladle which he rapidly fills and dashes against the back. The more splashing and rubbing that is used in the water, and the more vigorous the friction after it, the better the results of the shallow bath in ordinary chronic cases of disease. But in acute feverish cases, when the smallest unnecessary fatigue is to be avoided and where there is no fear of the body not warming after the bath, mere drying without friction suffices. The duration of the bath varies from one minute to six or eight.

This is a stronger measure for the purpose of producing reaction than the dripping sheet, if it be administered quite cold; the continued change of water during the splashing carrying off repeated quantities of animal heat, and so calling upon the interior organs to replace them. By this process a wonderful amount of irritation may be carried off from within, and the reaction

may be made so violent as to cause strong heat and final sweating of the skin. This is shown in the treatment of violent inflammatory fever, burning typhus fever, and in inflammatory croup. It constitutes the ordinary morning ablution of a person who wishes to maintain vigorous health, and to appear fresh instead of frouzy at the breakfast table. After the stagnation of circulation which sleep and the recumbent posture produce in the body, especially if the person has gone to bed with the undigested mass of a late dinner and wine in his stomach, the cold shallow bath operates, by its stimulation of the skin, to rouse the congested circulation in all the great organs and to substitute, in this manner, alacritty for languor. They who have been in the habit of taking this bath, feel much the want of it when from choice or necessity they are travelling, and strange houses, when they happen to be inmates of them, forbid their having it.

The shallow bath, however, is not always administered at the cold temperature. In all instances of the minor feverish attacks, when it is not practicable or prudent for the patient to walk, the water must be raised to 70° or 80° or 90° . For instance, in ordinary catarrh of the head and throat which is severe enough to render exertion of limb imprudent, the shallow bath which follows upon packing should be at 70° or 80° , unless indeed the full blood of the

patient will insure immediate reaction upon the rubbing sheet, which is in such case preferable. In the eruptive fevers also the temperature of the shallow bath should be raised to 70° or 80° if the eruption is sufficient and correct; but if measles or scarlet fever are retarded and insufficient in their eruption, the shallow may be at 60° in order to cause stronger reaction, or the warm followed by the cold pails of water may be employed. It often happens, again, that when a bloodless skin has been so far improved as to react with tolerable force upon the cold wet towels, the next application should be the shallow bath at 80° or 85° for four or five days: then take 2° from this temperature every morning until it falls to 70° , at which point the cold rubbing sheet, well wrung out at first, but gradually less so, may be used for a week or more; and when the skin has reacted well upon this for a few times, then the cold shallow bath may be applied with assurance of reaction and benefit. As I before said, there is no torpor of the skin so great but that it may be overcome by the artistic use of temperature, provided that the blood-making power of the body is not extinguished; and if it is extinguished the patient is beyond the help of hydro-therapœia. Minute observation will give this art, whilst the want of it leads to the indolent employment of warm baths, so pleasant to the patient's prejudices, so saving of intelligence and trouble to the prescriber.

Now, however warm ablutions may suffice in *acute* maladies, in which, as in the *complete* eruptive fevers, Nature is throwing out her irritation and requires only to be soothed in her process of doing so, I loudly maintain that for the purpose of curing *chronic* disease, the conservative powers of the body must be roused and brought into play, and that those powers never are so roused save by the reaction towards the surface produced by *cold* applications. No chronic disease is *cured* hydro-therapeutically by hot water; if the patient can never react upon cold water, he cannot be cured by water means. He may be amused and kept on the list by luxurious hot baths, but he will never be cured. The physician, therefore, in dealing with cases of low vitality, of scanty blood and wretched circulation of it, and of weak and irritable nerves as an attendant of these, must put forth all his skill to apply temperature with such art as to meet the lowest but also the growing power of the body to react upon it; if he does not or cannot do this, he does injustice to his patient and to hydro-therapeia. These remarks are necessary when we behold the whole scientific, physiological foundation of the water cure in chronic disorders abandoned in order to gratify the prejudices and pacify the fears of patients, whose ailments render them liable to whims and alarms, and of whom, in such a matter, the prescriber ought to be the dictator, and not the slave.

THE PAIL DOUCHE.

The patient sits in a dry long bath, and pails of water containing six or eight gallons each are thrown in succession over the shoulders, so as to run down both the back and the front of the chest. The number of pails varies from two to four. If there are more than two pails, it is desirable to dash two over the back and the remainder against the front chest. After they have poured over the frame, more or less friction is practised upon it with a towel. Drying, with considerable friction, follows.

The object of this process is to add the shock of the dashing of water to the splashing and friction which follows, as in the shallow bath. It thus becomes a stronger provocative to reaction to the surface than the shallow bath, and therefore supposes a greater power in the patient to effect it. In this view it is particularly applicable in chronic cases wherein with a good power of taking and digesting food, there is, nevertheless, an obstinate tendency to congestion in some important organ, the belly generally, the liver, the womb, even the brain and spinal marrow. These organs, so congested and oppressed, will in many instances be excited to efforts of self-relief by the shock and stimulus of the pail douche, when they would not be so excited by the shallow bath rubbing alone. Again, there

are frequently symptoms of irritation of the interior at the same time that there are signs of congestion; as, for instance, when the liver is as torpid as possible in its circulation whilst the nerves of the stomach are showing their irritation by nausea, liquid and gaseous risings, feverish mouth, &c. In such case, after packing to subdue these signs of irritation—packing which tends to increase *congestion*—the pail douche is demanded for the purpose of vigorously rousing the liver and obviating any depressing effects which the *necessary* packing may have produced. The same happens in atonic congestion of the brain—the kind of fullness of the brain which tends to pressure and palsy; then you are constantly obliged to reduce the extreme irritability of the digestive organs which attends that state of brain by fomenting and packing, and then to counteract the subduing effect of those processes on the circulation generally, by stimulating with the pail douche that of the congested brain in particular. In short, in all cases where congestion of circulation in one or more important organs is the *fundamental* cause of the disorder—nervous and irritative conditions being supplementary—the pail douche should be employed in preference to the shallow bath alone. A curious instance of its effect in dispersing congestion by stimulating some of the most sensitive nerves of the exterior, is that of hay asthma (page 187). At the early but fully established

stage of typhus fever the pail douche after partial packing of the trunk tends, by the same action, to prevent any undue depression of power, and at the same time to disperse internal congestion and carry off the burning and irritating heat of the skin; all this helping to divert from the brain the intense tumult which is going on in the abdominal organs.

There are conditions of the skin and circulation which render the application of a pail douche composed of one or two pails of water at 90° or 95° , followed immediately by one or two pails at 60° or 70° , advisable. In the case of scarlet fever of a bad kind, when the vital powers are unable to put forth the eruption freely, the nerves of the skin, being first as it were protected by the warm affusion, are better able to react upon the cool pails which follow, and which, were it not for the previous hot water, would be likely to increase internal congestion by virtue of the inability of the interior to react. Affusions of this kind always promote the secretory activity of the skin; for when the internal oppression is not very excessive, as in mild cases of versatile, typhoid, typhus, and scarlet fevers, the repeated warm and cool pail douches frequently induce perspiration at length, besides affording to the skin the comfortable sensations which so notably spare the brain and allow it to lapse into sleep. In those tedious chronic cases of atrophy or wasting without fever, in which the skin is

utterly without secretion, sebaceous or serous, but at the same time is in the most exquisite state of morbid sensitiveness, the hot and cool pail douche is the only application of the sort which can be made for a long time after commencing the treatment; for a perfectly cold douche would not only send an injurious shock from the irritable skin to the nervous centres, but it would drive from the surface a quantity of blood which the interior feebleness would never be able to send back again. But if you persevere with the mingled douches and employ abundant dry friction after them, you will gradually school the skin to bear cold-towel rubbing, then sheet rubbing, and so on, until the strong and healthy reaction upon an entirely cold bath is assured.

With what amount of force the affusion should be made, and how long the friction in the water should continue after it, must depend upon the amount of interior congestion to be removed, and the organic and nervous power of the person to carry on a strong and prolonged reaction. With plenty of blood in the body, but with stagnation of it in the liver or in the abdominal organs generally, for instance, the pails should be thrown with great force against the back and front of the trunk, and the aqueous friction should be continued for three to five minutes; if there be good reaction, it will be more prolonged on the surface the longer the

stimulation of the water has been applied. On some rare occasions—in apoplexy of the brain, for instance—the friction after the pail douche of four or five pails requires to be continued for twenty or thirty minutes, or even longer, and fresh cold water to be added to the bath in order to procure the most powerful and the most prolonged derivation to the external surface. In the case of hay asthma already alluded to, the more strongly the water is dashed against the chest and face the better. There are not a few persons, on the other hand, in chronic disease, who, requiring the strong shock of the pail douche to rouse the nerves to reaction, can only maintain that reaction on the condition of coming out of the water the instant after the affusion, not waiting for any wet friction. By degrees, however, they get over this inability, and they go on more rapidly towards cure.

SPINAL WASHING.

The patient sits on a board placed across a sitz or shallow bath, with his back turned towards the bath. The bath contains a quantity of water. The attendant then fills a jug of half a gallon or so, and pours it down the centre of the back, following the course of the spine with the jug. This he continues to do

from two to ten minutes. A good-sized sponge may be used instead of the jug, but it must be emptied as it is passed down the spine. The drying should be complete, but it is not desirable to use much friction in doing so.

All the applications which precede this are made to the extremities of the numberless nerves which, taking their origin in the spinal marrow, spread themselves over the skin, and give that membrane the faculty of receiving impressions from remedial measures. Such impressions are transmitted to the originating point of the nerves as aforesaid, and through it produce their results on distant organs. In the spinal washing this is to a great extent reversed; the application is made to the spine itself, and the stimulation is passed thence to the skin nerves on the one hand, and to the nerves which go from the spine to the muscles of sensation and locomotion, as well as to those distributed to the internal organs, on the other hand. In this manner the shocks, repeated along the course of the spine during a space of time varying from two to ten minutes, may reasonably be supposed to produce a divergent effect upon the action of the heart, upon the stomach, kidneys, and womb, and upon the alacrity of the muscles and the circulation in the limbs. In an acute disease such an effect is not usually required; but in chronic dis-

order, where torpor of function so constantly prevails in the interior organs, in the exterior locomotive and sensific nerves, and in the spinal marrow itself, the utility of a process which stimulates all the nerves and functions alluded to by stimulating the spine itself, will be evident. Accordingly, the spinal washing is used in cases of incipient palsy and numbness of the limbs, in neuralgia of various parts, in constipation of the bowels and womb, in affections of the kidneys, especially when they secrete sugar phosphates and albumen, with marked effect.

Very frequently it is desirable to add to the stimulation of the spinal marrow which this process affords, the additional stimulation of a rubbing sheet to the extremities of its nerves in the skin; and this is done immediately after the spinal washing has ended. The result is a feeling of great alacrity and sense of freshness; whilst if a face-ache, toothache, wombache, existed at the commencement of the process, it is nearly, if not entirely, dispersed at the end of it. An entirely new action is set up in the spine by it, and the sensational condition of its nerves is changed in accordance therewith. With the same view of strongly altering the action in the spinal tissue. the spine is often sponged whilst the patient is seated in a sitz bath, during the first or the last three, four, or five minutes of it. If it be desired to stimulate the more strongly, the *first* few

minutes will be given to this, as the water is then the coldest, and the power of reaction more intact; but if you wish to avoid the strongest stimulation, you wash the spine at the *end* of the sitz.

Just as in the application of the pail douche, the temperature of the spinal washing is varied. Observing well the organic capability of the patient when the symptoms require the employment of the spinal wash, you may find it necessary to commence by pouring water at 90° down the spine for two or three minutes, and then at 70° for two or three more minutes. Gradually you will be able, in consequence of the patient's sensations, to reduce both these temperatures, or to substitute a medium temperature of 80° or 75° alone; steadily but cautiously reducing that again until you reach the natural cold. The spinal wash is a process which requires this strict attention to the degree of reactive energy and diseased sensation; for if administered at a temperature inappropriate for either of those conditions, it is very apt to cause painful or perturbing results in the head—aching, fullness, giddiness. But a *hot* spinal washing alone will never do anything effectual for the malady, whatever it may be.

THE FALLING DOUCHE.

This bath is rarely to be obtained at home. Nevertheless, something should be said concerning it, if it be only to elucidate the mode in which the

whole treatment produces its results. The douche consists of a column of water of various diameter, from one inch to two and a half or even three inches, falling from an altitude of twelve to fifteen feet, measuring from the floor of the reservoir to the bended back of the bather. If a greater fall than this can be obtained, so much the better ; although the above measure will suffice for all ordinary purposes.

The reader who has well comprehended what has preceded on the subject of the hydro-therapeutic processes, will see in the falling douche an increase—an amplification, so to speak—of the methods already treated of, which are intended to provoke the reactive energy of the body. It assumes that much more of that energy exists than at the time when the rubbing sheet or shallow bath alone were tolerable by the frame. Accordingly, a precise measurement of such energy should be taken before it is prescribed ; and, in the cases of low vitality, there is often a very tedious building up of the powers before the point at which the douche is applicable is reached. In such instances—indeed in all instances, except one or two to be presently mentioned—it is better to apply the stimulation of the douche, in the first days of its employment, to the extremities of the spinal nerves spread over the skin, and to confine the douche to the upper and lower limbs, avoiding the trunk altogether. When, by three or four trials in this manner, it is found that no disturbance of the

nervous centres is produced, the douche may then be received on the lower half of the back for a very short time in addition to that on the limbs, and thus it may gradually be applied to the whole of the spinal column, and for a longer period. The only instances in which it is rarely improper to employ the douche over the back and limbs at once, from the beginning, are rheumatism of such long standing as to consist of stiffness rather than pain, and in purely atonic palsy—palsy unaccompanied by any irritation in the brain or spine, and the result of atony alone, and for the most part of the extreme chronic character. In fact, the douche is exclusively a remedy for chronic diseases; the only acute states in which it is applicable being the explosions of acute neuralgia in the midst of its chronic grumbling, and occasionally in hay asthma.

Much more might be said regarding this powerful bath; but as, from the difficulty of procuring it and the precautions which are necessary to be observed before it is used, it is not likely to be practised by the persons for whom these pages are intended, I stop short after indicating its place in the list of the general tonic agents of hydrotherapæia. In my work on Chronic Disease further observations on this point will be found.

THE SITZ BATH.

All the processes hitherto mentioned produce general impressions on the nervous system, beginning either in its extremities or at its centre. The sitz bath is a local stimulation of regions which have strong sympathies with other regions. The immense networks of nerves which supply the whole of the organs contained within the hips and lower belly, and the lower third of the spinal marrow terminating in great leashes of nerves, are the sensitive points upon which the sitz bath operates. Notwithstanding this extensive nervous organization and its extensive sympathies, none of the processes of water treatment have been more ridiculed by the ignorant orthodox practitioner than this. Yet, even if there were not abundant anatomical and physiological reasons to explain it, the long-tested experimental fact is that a sitz bath will give an appetite for food, and an easy digestion thereof; that it will pacify a headache, a toothache, or face-ache; that it will relieve giddiness of the head from weakness as well as giddiness from fullness, which fullness it is capable of reducing even to the production of pallor of the face and faintness; that it will rouse the brain from the actual stupor of typhus fever; that it will procure the most refreshing sleep to the irritated brain; that it will open the bowels if they are costive, and

stay them if they are in a state of diarrhœa; that it will increase the menstrual discharge if it is scanty, and restrain it if it is excessive; that it will clarify and augment the deficient and loaded urine, and diminish the watery and profuse urine; &c., &c. All these numerous and discrepant offices it performs by virtue of being adapted in depth, in temperature, in duration, in time of administration, to the varying circumstances of the conditions against which it operates. It were long to detail these at the concluding part of a work, and they will be found scattered over the body of it under the various heads of disease. The most common objection urged against it by those who know nothing about the matter, is that it drives blood to the head; whereas the point to be guarded against most especially in its administration is, that it be not prescribed in such a manner as to draw blood from the brain to an extent which may weaken it. Reaction is most necessary in this bath, the want of it entailing much shivering and nervous misery; so that it should be given at a higher temperature than the natural or for a very brief time, and be followed by abundant dry friction, whenever walking is impossible or imprudent. Fatigue from walking is wonderfully relieved by a sitz bath at 50° to 60° for ten minutes. And when a man returns from a long day of brain work to a late dinner, he will save the stomach from indigestion, and the head from the effects

of indigestion and repletion, if before eating he takes a sitz at 60° for ten minutes, wearing a cold wet cloth on the head during it. He thus empties the head of blood which labour had accumulated there by its operations during the day, and spares the further accumulation which the dinner would make. This is well worthy the attention of the numerous race of the cerebral labourers in question; for what is it which they ordinarily do? All day long they are busily driving blood towards the brain by mental acts; they come home, fill the stomach with food and stimulants, and drive more blood thither by digestive acts; they sleep after dinner and suppose that it means exhaustion, whereas it is the sleep of repletion and oppression, both then and in the first sleep in the bed. No wonder that apoplexy or paralysis awaits such persons after some years! A sitz bath before dinner, and a shallow bath on rising in the morning, would enable the brain to do its hard work without either of these disasters as a consequence.

FOOT BATHS.

Here is another operation, which is too simple for the learned ignorant, but which at the right temperature produces the best effects on distant organs, especially the head and its regions. Face-ache, toothache, cold in the head, nervous

and full headache, bad sleep, are all beneficially acted on by the cool or cold foot bath, either with or without the addition of mustard or pepper to rouse the nerves of the skin. Flatulent stomach, torpid kidneys, costive womb, are all affected by it also. For all these purposes it should be cool or cold, as well as for the purpose of warming the feet. A hot bath has no permanent and a very uncertain passing effect on any of these symptoms, especially on cold feet, which it invariably renders more cold. It may be necessary to begin the foot bath at 80°, but it should always be with the intention to lower the temperature. Occasionally friction of the feet with a damp or dripping towel for three or four minutes, followed by strong dry friction, proves a foot bath which will warm the feet when they will not react upon a warm foot bath.

PACKING WITH TOWELS AND SHEETS.

This is not a tonic, but a subduing and soothing process. If in a chronic case there is abundant blood and strong irritation in the patient, the packing of the entire body in the sheet may be practised at once; and the preceding pages show with what frequency this may be done when there is feverish and inflammatory action to counteract. But it is very often desirable to commence, at least, with

partial packing with towels, in order to avoid the too rapid reduction of the circulating and locomotive activity of the body. Again, if the origin of the majority of the symptoms be clearly traceable to one set of organs—those of the belly, those of the pelvis or of the chest—it will be well to pack those regions alone, particularly if the patient is not in full blood; and it has this advantage that it can be repeated so frequently as to exhaust the local irritation without exhausting the general strength, which a sheet packing might do before the local irritation was abolished. In this manner the hips and loins may be packed three or four times in succession, and the belly may be packed so often as to amount to a cold fomentation of that region; and an immense amount of heat and irritation be drawn out without damage to the degree of vitality in the entire frame. One fact however, must be recorded—that packing of the chest proper, of the parts contained within the ribs, reduces the sensational and locomotive activity of the patient in a fourth of the time which the packing of the belly would require to produce the same effect. The latter may go on for months, when the former would need to be stopped in weeks in consequence of exhausting results. This is in parallel with the fact that half a dozen leeches applied over the ribs lowers the powers as much as twenty would do if applied over the

bowels. The same rule holds with blistering plasters.

The local packings are as follows:—1st. Packing of the hips and loins, *i.e.*, from the line of the navel to half way down the thigh. 2nd. Packing from the lower edge of the ribs to the hips, so as to include all the contents of the belly. 3rd. Packing of the lowest back and lowest belly by means of a thick-folded wet towel placed on each of these spots: this is generally changed every fifteen or twenty minutes for one to two hours. 4th. Packing with one towel all down the back, and another all down the front, of the trunk. These are sometimes put on double when the amount of fever irritation warrants it; and it is often desirable to add to this packing with two towels, a third towel folded over the belly. 5th. Packing of the whole course of the spine with a thick-folded wet towel, sometimes with, at others without, another towel or two folded around the hips. 6th. Packing from under the arms to below the hips: which being the nearest approach to the packing of the entire body, is adapted to the high degrees of feverish and inflammatory disorder in the chest or belly existing in persons of rather low vitality, or in persons of higher vitality when it is required to change the packing four times or more in rapid succession.

COMPRESSES

are partial packings which exhibit the strict sympathy between the skin and the interior organs in a more striking manner than any other process of hydro-therapeia. Without trial, no one believes in the speedy relief which may be brought to a pain or a morbid trouble of any kind, secretory or sensational, in the chest, throat, or belly, by a cold wet compress applied over those regions. It acts both in prevention and relief; and much misery of indigestion and of torpid bowels is avoided by the almost constant use of it over the stomach by sufferers from those conditions. Sleeplessness is effectually overcome by it; especially if the patient has had a first sleep and cannot get off into a second. As a means of soothing the irritation and inflammation of the interior of the large joints of the body, it should never be rejected; whether the disorder be chronic, as in old rheumatism and neuralgia, or recent, as in sprains and contusions. Its numerous applications in general disease will be found in almost every page of this work.

The frequency with which the cold compress should be changed varies somewhat. It should be remembered that the soothing effect does not take place until so much heat has been withdrawn from the surface on which it is applied as will render the compress warm. If this warmth be

allowed to accumulate beyond a certain extent, it becomes a stimulant, and actually irritates what it was intended to soothe. Accordingly, the frequent refreshing of the compress must depend upon the rapidity with which the heat accumulates in it, and this will be in proportion to the interior irritation of the organ which demands the relief, and the active vitality of the patient. In the feverish disorder of the whole digestive apparatus after excesses of diet, in sharp "bilious attacks" as they are called, the stomach compress will require to be changed every two hours at least; whereas in the mingled nervous and feverish irritation of the stomach in old chronic disorder, it may remain unchanged for five or six hours. In inflammatory conditions of the chest the same rule obtains; but it is more necessary to observe the result, for, on the one hand, the compress does not commonly become hot so speedily as on the belly, whilst, on the other hand, the chest cannot bear the long accumulation of heat on its surface so well as the belly, as it depresses and shakes the nerves more painfully. So that, although upon the whole it is not so frequently necessary to refresh the compress in an acute catarrh of the air-tubes of the lungs as it is in an acute attack of the gall ducts of the liver and membrane of the stomach proper, yet more care must be taken not to allow the compress, when it is warm on the chest, to remain in that state so long as to produce irritation instead of soothing.

In chronic inflammation of the air-tubes of the lungs, the compress may generally remain eight or ten hours without being changed. Compresses to the inflamed throat require to be changed every two or three hours, otherwise they are likely to cause or increase headache. In *contusions* of the limbs and joints, that is, crushing violence, the cold compress should be applied immediately, and changed every half hour or hour ; but in *sprains*, that is, violent tension of the ligaments of joints and the sheaths and tendons of muscles, it is desirable to foment the part with hot water for a time before applying the cold compress, which is then most useful. I have never been able to frame a reason for this discrepancy, but experience abundantly proves it.

From one absurdity I would especially warn the reader—a warm compress. If the compress does not warm readily, wring it out of cold water as strongly as you please, or omit it altogether until the general action of the skin is improved by other measures. But to send forth a patient with a hot-water compress on his stomach or chest is to send him forth with an application which cannot do good, inasmuch as it will grow cooler instead of warmer, and which may do harm by rendering the skin underneath it more sensitive than it was before. A hot compress is a therapeutical solecism, which marks the prescriber of it as being at once devoid of general physiological intelligence and of knowledge of the ground upon which the water

treatment is physiologically based. Strong heat very frequently renewed over a part of the body stimulates and acts as a counter-agent ; but a temperature of 90° or 100° applied by a compress over the chest or belly, and not removed for two, three, or more hours, fails to excite the skin which is only some 10° lower, and not until it has become colder than the skin, which it always does, is it capable of producing the true reaction to the surface upon which its soothing operation depends. I warn patients that they would act more wisely not to apply a compress at all, than to apply a warm one.

In speaking of the accumulation of heat in the compress and the necessity for refreshing it, the kind of dry covering employed must always be remembered. If, as commonly happens, a covering of waterproof cloth is used, an excessive quantity of heat is readily accumulated, and the wet part of the compress will require more frequent refreshment by reason of the heat. On the other hand, when the covering is made of permeable material, the same frequency of renewal may be required, by reason of the speedy drying of the moist part of the apparatus. But in all this the patient's sensations must somewhat rule ; if none that are disagreeable arise, it may be surmised that the greater heat in the one case, and the less moisture in the other, are appropriate, and the previously fixed time for refreshment may be adhered to.

HOT FOMENTATIONS.

If a hot compress placed on the skin and allowed to remain there unchanged for two hours or more is unintelligible and unartistic, it is otherwise when a thickly folded flannel is completely wrung out of hot water, applied over a region for four or five minutes with a thick dry covering of blanket, and changed at the end of the four or five minutes. This is the process of the hot fomentation, which is continued from twenty minutes up to two or three hours, according to the urgency and intensity of the symptoms. Its operation is by attraction, as the cold compress is by reaction. In both instances the result is soothing to the interior organ over which they are applied; but the hot application stimulates the exterior skin much more vehemently and suddenly than the cold, because it is constantly renewed at a temperature which the excited skin cannot bear without irritation. Every degree above the normal temperature of the skin is felt much more acutely than every degree below it; but to procure useful counteraction over an interior irritation, the high temperature must be maintained by the frequent renewal of it in the change of flannels. I have often tried fomentation by placing a tin or india-rubber bag full of hot water over a flannel wrung out of hot water, and leaving them without change during all the

time of the process ; but I never saw the same amount of benefit derived from that plan, as from the frequent renewal of the flannels out of hot water.

Acting thus by irritating the skin and attracting a great quantity of blood towards it, the hot fomentation becomes preferable in two circumstances. One of these is when there is so low a degree of vitality in the body generally, that reaction upon a cold application could not be expected. The other is when the interior irritation to be subdued is very intense and of the mingled nervous and inflammatory kind, with, if anything, an excess of the nervous character.

In cases of intense chronic irritation of the digestive organs, when the absence of proper digestion and nutrition has produced wasting and bloodlessness, hot fomentation is for a time the only practicable method of attacking the interior irritation which is consuming the patient. When the fomentation has reduced the mischief sufficiently to enable the digestive organs to make more blood, the same reduction will enable the nervous system to distribute that blood more equably over the body ; and in proportion as this is effected the production of reaction by cold may be added to that of attraction by heat, and the really *cure* process be thus set in motion. In doing this close appreciation of the patient's sensations is, of course, necessary, and no temperature should be repeated which once gives

unrest instead of quietude and soothing. I have known it necessary to continue hot fomentations alone for six or seven weeks, before I judged it proper to try reactive counteraction by cold packings. So also when an acute indigestion invades the stomach in a person of low vitality, the hot fomentation is the first application to be made over the region. If in consequence of such application the nausea, pain of the pit of the stomach and other signals of acute *nervous* disorder are subdued, then the cold packing of the belly may be applied to reduce the *inflammatory* state of the digestive membranes, which is recognized by foul tongue, thirst, failure of appetite, &c. If the patient is not in a *very* low state of blood and strength, it frequently answers to employ hot fomentations every night at bed-time and cold packing before rising in the morning, and so to be operating at once on the nervous and feverish elements of the diseased condition.

In the other circumstance in which hot fomentation is preferable, namely, the *very intense* mingled nervous and inflammatory internal action, the condition of blood and vitality need not to be accurately measured. However full of blood and life the patient may be, the interior irritation is so intense that the organs in which it rages are unable to make the effort at reaction upon cold until the process of attraction by heat has been first tried, and has so far reduced the oppression of the interior as to allow it to react when

called upon by external cold. Such is the state of things and such the necessity in the incubating stage of typhoid fever and in the cold stages of versatile fever, in both of which a high degree of heat, 130° , is necessary in the form of fomentation. Such also will very generally be found to be the necessity in cases of persons who, whilst working their brains inordinately with excitement, have been feeding their stomachs inordinately also. When such persons break down, the interior irritation is most intense, and partakes both of the mucous inflammatory and nervous conditions; the latter requiring the hot applications and the former the cold, so soon as the reduction of the nervous state permits of ready reaction.

These illustrations will suffice to show the conditions of the interior to which hot fomentation is applicable. Upon the whole it may be said that it is the remedy for the nervous irritation, whilst the cold applications are the remedy for the inflammatory and feverish. But it requires that both states should be present to have the best results from the hot first, and then from the cold. A purely nervous affection of the stomach, unaccompanied by any feverish action of its membranes, would not be benefited by hot fomentation: derivative shocks by spinal washings, foot baths, sitz baths, &c. would then be more appropriate in such case. In all cases of acute disorder of the digestive organs the

double state alluded to exists, and it will always be proper to begin, at least, with hot fomentation.

The temperature of the water employed in fomentations is a point of some nicety. It occurs at once to the mind from what precedes that the more intense the interior irritation the higher the temperature required to relieve it; and in the worst cases, as in the incubating stage of typhoid fever, it may reach as high as 130° or 135° . In the feverish rage of an acute attack of stomach disorder in a full-blooded person, it may be 120° ; but if the patient is in low blood and vitality it is better to have it ten degrees lower, else it might cause throbbing of the weakened brain. Measuring the degree of heat by the amount of the symptoms which it is intended to counteract, the temperature of 110° to 115° will be found to be that which agrees with the majority of cases of internal irritation of the digestive canal, and it would be well to commence with that temperature, elevating it if the effect on the head and heart is not disagreeable.

With regard to the duration of fomentation, it requires to be continued in the worst cases for two or three hours. In the more ordinary cases half to one hour is the suitable time. But, just as in the matter of temperature, the effect of the process on the head and heart must be observed and its duration regulated accordingly.

Chronic cases bear neither so high a temperature nor so long an application as acute cases, all things being alike in the vital activity of the patients. Too hot or too long an application excites instead of soothing the circulation and the nervous system, but even whilst doing that, it may be relieving the special internal irritation against which it is directed. Still it is not well to persevere in the same degree in the face of troubles in the head and irregularities of the heart.

When fomentation is employed for external troubles, such as spreading inflammation, erysipelas, boils, and sprains, the temperature should be somewhat lower than when it is employed against internal irritations. In the most superficial inflammation of the skin, called *erythema*, the temperature should never exceed 105° . In erysipelas where the inflammation dips deeper into the tissues, however, and where there is a thick leathery feeling of the surface, a temperature of 130° is often necessary in order to arrest the still deeper descent of the inflammation and call it more to the surface, where it can find relief by sweating secretion. As soon as the leathery state softens, the temperature should be dropped to 110° . The application of fomentation to boils will be found under that section of disorders of the covering membranes. In all these instances it is better to foment with a linen than a woollen texture; the latter rendering the skin sore if

necessity demands any lengthened continuance or frequent repetition of the process. Sprains require a temperature of 105° if they are slight and near the surface, and of ten or fifteen degrees more if they occur in large important joints and are the results of extreme violence.





14

